GOVDOC
BRA
4938
DRAFT

BOSTON PUBLIC LIBRARY
3 9999 06543 922 4

BOSTON PUBLIC LIBRARY
THE TRVSTEES OF THE PVBLIC LIBRARY OF THE CITY OF BOSTON 1852 · 1878

BOSTON PUBLIC LIBRARY
THE TRVSTEES OF THE PVBLIC LIBRARY OF THE CITY OF BOSTON 1852 · 1878

BMA-1090

APPENDIX F

WATER TRANPORTATION IN BOSTON HARBOR

Issues and Opportunities

BOSTON PUBLIC LIBRARY
GOVERNMENT DOCUMENTS DEPARTMENT
RECEIVED
NOV 23 1990

HARBORPARK

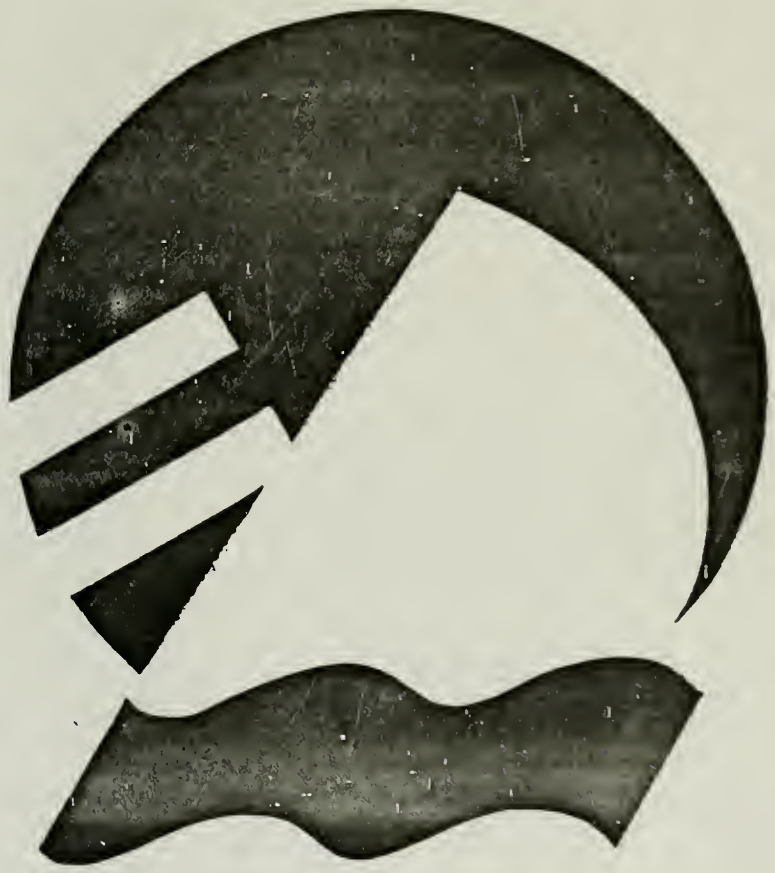
CITY OF BOSTON
RAYMOND L. FLYNN
Mayor

BOSTON REDEVELOPMENT AUTHORITY
STEPHEN COYLE
Director

ROBERT L. FARRELL
Chairman
JOSEPH J. WALSH
Vice-Chairman
JAMES K. FLAHERTY
Treasurer
CLARENCE J. JONES
Vice-Treasurer
MICHAEL F. DONLAN
Vice-Chairman, Sub-Committees
KANE SIMONIAN
Secretary

WATER TRANPORTATION IN BOSTON HARBOR

Issues and Opportunities



HARBORPARK

CITY OF BOSTON
RAYMOND L. FLYNN
Mayor

BOSTON REDEVELOPMENT AUTHORITY
STEPHEN COYLE
Director

ROBERT L. FARRELL
Chairman
JOSEPH J. WALSH
Vice-Chairman
JAMES K. FLAHERTY
Treasurer
CLARENCE J. JONES
Vice-Treasurer
MICHAEL F. DONLAN
Vice-Chairman, Sub-Committees
KANE SIMONIAN
Secretary

- A study to develop design standards for landside and docking facilities, including those required for handicapped access.

- A cost feasibility study for evaluating various types of water transportation services in the Inner Harbor.

o Set a goal for the initiation of activities and responsibilities for the designated governing body.

RECOMMENDED NEXT STEPS

The following is a list of recommended next steps to be taken in order to develop a viable water transportation system in Boston Harbor:

- Finalize a comprehensive water transportation management plan for Boston Harbor. Such a plan should include sites, routes, intermodal links, detailed costs and implementation schedules for developing a water transportation system.

- Update Harbor regulations for the City of Boston to address potential safety problems in the Inner Harbor, taking into account the growth potential of water transportation services.

- Finalize design standards and specifications for landside and waterside facilities serving water transportation.

- Encourage the BRA to assume a leadership role, coordinating with other State and City agencies and the Water Transportation Task Force, to finalize policies and guidelines for governing water transportation activities in Boston Harbor, using this document as a basis for discussion.

- The existing Water Transportation Task Force should retain its broad representation from both public and private entities and serve as a review board for specific proposals, until a single governing body for water transportation can be established; also utilize the Harborpark Advisory Committee as a review and advisory board for specific proposals.

- Begin serious discussions with the various agencies having the potential to serve as a governing body for water transportation services, in particular the MBTA, and finalize a recommendation.

- Apply for Central Artery Mitigation monies as a means of subsidizing water shuttle services in the Inner Harbor.

- Establish a permitting system for water transportation services, which incorporates standards for landside and docking facility construction, operations, and boating safety.

- Undertake the following work inhouse or utilizing private consultants:

  - A study to determine the appropriate vessels for the Inner Harbor water transportation system;

  - An analysis of ridership to identify service demand and routes for the system;

CHAPTER 12

Recommended Next Steps

continued to the present, with annual operating subsidies for the service totalling over $1 million per year. At the same time, the State has subsidized major pier, dock, parking, and other support facility repair and upgrading at the Hingham dock, to underwrite capital costs for the service.

The Massachusetts Port Authority has also provided subsidies for operations and capital improvements for their Airport Water Shuttle service. It currently subsidizes operating costs for the two private operators who transport passengers to and from Logan Airport and Rowes Wharf. Massport has invested in major pier upgrading and repairs, as well as the construction of a new covered waiting area for the airport terminal.

In the case of landside capital investment, the BRA and DEQE, through design review and development agreements, have required private developers on the waterfront to build and maintain modern, efficient water transportation terminals and facilities as integral components of their projects. These unique requirements are providing the necessary infrastructure for Boston's emerging water transportation system. Similar capital investments are being committed on publicly owned and developed projects, such as Long Wharf (BRA and DEM), and the Harbor Island State Park (DEM), to ensure a consistent quality for water transportation facilities throughout Boston Harbor.

FUNDING WATER TRANSPORTATION

Any public transportation system requires a dependable and consistent means of funding capital and operating costs. Examples of such funding mechanisms include: direct federal subsidy, direct state subsidy, state or local bond issues, private subsidy (by developers), or direct investment by private boat operators. Boston has lagged behind other comparable cities in the area of water transportation, particularly as related to funding sources, organization and regulations. If Boston is to accomplish its goals in achieving a comprehensive system of public transit via water, these consistent funding needs must be met.

This situation is constrained by the lack of current federal funds in the area of transportation subsidies. The current federal administration's policies have all but eliminated subsidy money available for either capital or operating expenses concerned with water transportation. This is a direct reversal of former federal policy, which provided large amounts of demonstration grants, capital improvement grants, and operating subsidy grants for water transportation. Therefore, to fill this gap, state and local governments must team up with the private sector, to provide sufficient funding to expand and upgrade Boston's water transportation system.

The Commonwealth of Massachusetts, through the Executive Office of Transportation and Construction and the MBTA, have had the most extensive local experience in provide funding to subsidize operating losses and capital improvements.

In response to the Southeast Expressway reconstruction project in 1984, the Commonwealth subsidized private carrier commuter boat service between Hingham Shipyard and Rowes Wharf. This highly successful arrangement has

CHAPTER 11

Funding Water Transportation

operations costs, having in place technical, planning and management staff to operate the system, and having the ability to ensure a comprehensive, well-governed system that would guarantee efficient and attractive water transit throughout Boston Harbor. It would also provide necessary links to rail commuter, rapid transit and public transportation modes in the region.

The fourth alternative involves maintaining the existing public/private mix of operations and management. In either case, the start-up costs and time-frame factors are minimal, since the existing framework is in place. However, the governance and functional factors become a detriment in these alternatives. The multiplicity of operators and regulators, both public and private make the job of creating a comprehensive and integrated system much more difficult.

In much of the discussion on a water transportation system at the state and city level, the words coordinated and comprehensive have been paramount in the vocabulary. The Boston Redevelopment Authority has laid the ground work for landside terminals and facilities in anticipation of such a comprehensive system becoming a future reality. City and state agencies have recommended the establishment of new routes and alternative types of service to help reduce highway congestion. This heightened concern for the formation of a comprehensive transportation system could best be accomplished by an MBTA/privatized arrangement, that would reach a consensus on system goals and objectives. From that consensus the MBTA could easily implement policy. Second, the MBTA could provide for long-range funding that would purchase equipment and build facilities for a system that is multi-leveled, able to accommodate a wide range of routes and satisfy consumer demand.

Recommendation: Establish a MBTA/privatized arrangement as the governing and operations body for water transportation in Boston Harbor.

where the subsidy is needed and what the priorities are. Without some centralized authority, an effective decision-making process is more difficult and time-consuming to accomplish.

Recommended Alternative and Responsibilities

Four governing structure alternatives have been studies. Three of the alternatives, the Massport, publicly-regulated private sector and MBTA/ privatized option, reflect a partial view of the situation that exists today, in which the private and public sector each play a role in what can be called a loosely organized transportation network. The fourth alternative, a water transportation authority, would be the most significant change from the current situation.

The four alternatives were analyzed by looking at the following criteria:

- o representation: who would have input into the governing policy
- o feasibility: how would the system pay for start-up and operation
- o time-frame: how long would it take to set up the system
- o function: how would the system include a range of low-demand and high-demand routes to provide a comprehensive water transportation service.

The first three alternatives involve the State as the primary manager of the water transportation system. In one instance, the Massport alternative, the institutional framework and funding source is already in place. The major drawback to Massport's management of the system has been identified as the loss of control and representation that Boston and other cities and towns might encounter by going with Massport.

The MBTA/privatized alternative would seem to meet all the criteria, having representative input from both its Board of Directors an the WT Task Force, having established funding mechanisms to subsidize capital and

routes and services (much like the Hingham-Boston shuttle runs today as a public/private partnership.) This system would allow for stability in schedules, routes and funding, but leave plenty of room for private sector flexibility, competition and diversity.

Alternative #4: Regulated Private System

If the water transportation network were totally privatized, it would require the creation of a new regulatory framework to protect the public and minimize conflicts between individual operators. Standards for operations, facilities and equipment would have to be enacted by public authorities. When fares, facilities, and equipment are regulated by the city or state, the operators would have to pay strict attention to a fast and efficient service to maximize revenues. Also, a competitive system breaks down the high costs of start-up and operations between several operators. Initial capital costs are bourne by the private sector and there is no financial risk to the public.

A comprehensive water transportation network is more difficult to create with separate independent operators who have entered the market with specific goals in mind. There is the danger that without public control and subsidies, less profitable routes that are essential to the formation of a comprehensive system, might not be served. Examples of this include two of the most popular and important routes currently operating in Boston Harbor. The Hingham commuter run and Logan Airport shuttle, which depend on subsidies from the MBTA and Massport respectively. In a private market system, these routes would be unable to operate without increasing fares, which would then affect ridership levels. To insure that a comprehensive system is put in place, public subsidies are virtually mandatory, as is with the current situation. Overlapping jurisdictions make it difficult to reach a consensus on

subsidy base for system operations. By the time such an authority could become fully operational, the opportunity to completely realize Boston's potential in the area of water transportation could have passed and the authority could defeat its own purpose.

Alternative #3: MBTA/Privatized

The authority and responsibility for a comprehensive, well run water transportation system could be integrated into the existing structure and organization of the MBTA. This would seem a logical and effective choice for many reasons. The MBTA is the established public transit authority for the region and would bring stability and experience, to water transportation as a component of public transit. The MBTA is fully versed in handling all segments of public transit, including: scheduling, funding, technical planning, maintenance, legal issues, financing, advertising, and coordination with other modes of transit. The MBTA has capable operations management and planning staffs in place. The MBTA has been the funding mechanism for the Hingham-Boston subsidy since it began, and has the ability to successfully generate and direct both capital and operating funds for water transit. The MBTA will be able to coordinate scheduling and advertising so as to maximize coordination with other forms of transit and maximize promotion of water transportation as a reliable and effective form of public transit.

The MBTA could take on the central coordinating, funding, planning, and governing role for water transportation, while leaving the actual operations to private boat operators. A representative water transportation task force could act as an advisory board to it. The commuter and shuttle schedules, routes, subsidies, fares, and policies could be directed by the MBTA, while operations would be "privatized" to operators, who would bid for

developing a water transportation system, Massport could take either public or private piers to operate its system. The City of Boston, other cities and towns, and private owners or operators could potentially lose control over docks, if Massport assumed authority for such services. If Massport decided to limit acquisition of new docking sites and utilize primarily those it currently owns, the inner harbor shuttle service might not provide the best routes for the general public.

Alternative #2: Regional Water Transportation Authority

A new Regional Water Transportation Authority, established by the State Legislature, could be created. It could be governed by a Board of Directors consisting of representatives of the City of Boston, affected cities and towns, appointed State representatives, private boat operators, and citizen representatives. This single purpose agency would have the sole mission of establishing and directing water transportation in the region. Jurisdiction, fiscal, and administrative accountability would be focused in one entity, established with a clear mandate to oversee and operate a comprehensive water transportation network. The situation would be similar to the conditions surrounding the Massachusetts Water Resources Authority (MWRA), which was set up in 1984 to address the pollution of Boston Harbor. As the MWRA consolidated jurisdictions and achieved consensus over pollution issues, so might a Regional Water Transportation Authority for water transportation issues.

As occurred with the MWRA, it might take years to form a new governmental authority through the State Legislature, to select representative members and to hire staff. Also, a long-term funding mechanism would have to be established to provide for the initial allocation for start-up and a

INSERT

Alternative Possibilities

Considering the above goals, four alternatives have been explored to recommend a governing body for Boston's water transportation system. The four options evolved out of a review of the current jurisdictions and interests in the Harbor, their operations and priorities, and through an analysis of which type of organization is best suited to fulfill the goal of a comprehensive water transportation system.

The excursion and charter segments of water transportation would be left under the control of the private operators, with only advisory guidance from the MBTA. This would leave these more profitable "recreational" routes in the private market, allowing for greater competition, variety of service, and choice for the consumer.

Alternative #1: Massport

A separate division of Massport could be established to oversee the development and operation of a water transportation system, incorporating commuter and shuttle systems. One obvious reason for considering this system derives from the fact that Massport is the established transportation authority for the Port of Boston, Mystic River Bridge and Logan International Airport. The Massport staff is composed of planners, technicians and management personnel who administer a port complex composed of piers, terminals, and landside support facilities which

Despite these efforts, authority and jurisdiction regarding water transportation in Boston remains highly fragmented and confusing. One of the highest priorities for the water transportation community in Boston should be to foster the creation of an effective governing body for Boston's water transportation system, which could do the following:

- Clear up the problem of conflicting jurisdictions, by focussing authority and responsibility in one place.
- Increase awareness of water transportation and promote it as a legitimate form of public transportation, which can provide efficient and comfortable alternative to ground transportation.
- Allow for representation from the many parties involved in water transportation.
- Finalize the technical aspects of the system such as design of vessels, facilities, routes, and scheduling.
- Provide for licensing and accountability of boat operators under safety regulations promoted by the Coast Guard and others.
- Establish policies and programs for the allocation of funds, subsidy of operators, and investment in facilities and equipment.
- Provide multiple water transit routes to ensure an efficient, comprehensive service.

INSERT .3A are also essential components of the water transportation system. Massport also has considerable experience in water transportation, having operated the airport water shuttle since 1985. Additionally Massport surplus revenues in the 1985 Fiscal Year were approximately $39 million. These funds could be channeled into a water transportation division for necessary start-up costs and future operational costs.

A major weakness is that the Massport Board is composed of members appointed by the Governor. It is not set up as a representative body, and therefore, City and regional issues could be superseded by State or Massport priorities. Also Massport has the authority to condemn land, public or private for a public purpose. In this case, there is a potential that in

JURISDICTIONAL RESPONSIBILITIES

Existing Structure

An organized and duly constituted governing body does not exist to direct water transportation in Boston Harbor. In this regard, Boston is unlike all of the other waterfront cities researched for this report, which have such a governing body. (See appendix.) Presently multiple state and city agencies, along with many private boat operators, developers and commuters compete to set policy and standards for Boston's water transportation system. Jurisdictions overlap and interests collide, which limits the potential for creating a comprehensive, efficient system.

Since 1983, regular meetings of the EOTC Water Transportation Task Force have been held. This informal discussion group includes representatives from EOTC, MBTA, MDPW, BRA, DEM, DEQUE, CZM, MASSPORT, the City of Boston Transportation Department, National Park Service, South Shore Chamber of Commerce, vessel operators and owners, consultants, and other parties interested in water transportation. This group has highly increased communications, and awareness concerning water transportation, but authority regarding water transportation remains highly fragmented.

For the third consecutive year this group will be hosting the "Boston Ferries Conference" to be held May 19, 1987 on Thompson's Island in the Boston outer harbor. This all-day seminar will spotlight issues facing Boston's emerging water transit network, and will be attended by federal, regional, and local water transportation planners, administrators, and consultants; as well as the many Boat Operators, Marine Designers, and Builders.

CHAPTER 10

Jurisdictional Responsibilities

Harbor Traffic

With increasing water transportation usage in the Boston Harbor there is increasing potential for traffic and safety problems. In particular conflicts may arise between competing uses among water transportation services and commercial or recreational boaters. These conflicts will increase congestion, and potential boating accidents.

The current Harbor regulations are antiquated and inadequate in regulating safe usage of the Harbor, particularly with regard to the stated authority and responsibilities of the Boston Harbormaster.

Jurisdictional issues (as outlined in Section 10) compound this situation.

The following measures are recommended as a means of promoting the safe and coordinated use of the Inner Harbor for water transportation:

- Enact a new ordinance that empowers the Harbormaster to promulgate rules and procedures deemed necessary to maintain a safe harbor;
- Enact new regulations which specifically address current and future harbor problems related to water transportation;
- Develop a Management Plan in conjunction with adjacent cities and towns bordering the Harbor which addresses harbor traffic safety problems as well as other boating/docking and water use issues. A management plan would include guidelines, standards, and where appropriate, designated areas for compatible water dependent activities, which could be incorporated into the City's licensing and permitting process;
- Provide facility in the Boston Harbor for the docking and storage of impounded vessels removed by the Harbormaster in the line of duty.

Another important issue in the management of water transportation is the permitting or licensing of boat operators and/or routes. Questions arise as to who should be allowed to operate a water transportation service in Boston Harbor, for which routes, for how long, and under what conditions. Currently all it takes to operate such a service in Boston Harbor is a Coast Guard Safety Permit for the craft and a similar license for the captain and mates. Currently an operator can run any route he wishes, any time he wishes, as long as he has permission to dock at the origin/destination points.

Should water transportation services and routes be more actively regulated by licensing or permitting agencies, or should minimum safety permits be required, allowing the market to determine the operators, routes, schedules and terminals? The City of New York requires operators to submit a detailed application for a permit to operate a water transportation service. The process can best be compared to a small scale environmental impact report on the proposed service addressing such questions as: proposed service routes, projected ridership for up to five years, schedule, rate, vessel, terminal, insurance, maintenance, personnel, environmental impact information, as well as detailed capital and operating financial statements. These questions will eventually have to be solved by the body or bodies that step forward to govern water transportation but the issues must be addressed before water transportation in Boston Harbor becomes chaotic and unregulated. (See appendix for sample of N.Y. permit).

operations and services, people will not be drawn to use water transit, and the full extent of Boston's waterborne transportation system will never be realized.

Leasing and Permitting

Leasing and permitting are of paramount importance to the success of the private operators. Perhaps the greatest single factor to the long term viability of water transportation in Boston Harbor is that of stable and fair leases to private operators. The foundation of the private operators' business is the ability to tie up their boats at the various wharves, be this to store boats or to pick up and drop off passengers. A stable and fair lease of sufficient duration is what gives the operator financial stability and operational credibility in the market.

Unfortunately, skyrocketing real estate values and docking fees, coupled with constant construction of the waterfront have kept leases too short and uncertain. These unfavorable terms make it economically difficult for the operators to increase service, purchase new equipment, or make major repairs on existing equipment. This instability constrains the whole system of water transit in Boston Harbor. No bank will lend an operator money for repairs or capital investments having a short-term lease, or having temporary docking arrangements. Hence operators are unable and unwilling to expand operations or try risky new routes, without the stability of long term, reasonable leases and the financial opportunities they foster.

Therefore solutions must be found to enable private operators to obtain a reasonably priced, long-term leases and docking terms. Developers and public agencies must work with the private operators to meet their needs, and provide them with stable leases and docking conditions, so that they will be able to invest in equipment, expand service, and operate more efficiently.

MANAGEMENT ISSUES

Operations and Services

One of the more important issues often overlooked in water transportation is the management of operations and landside services, needed to serve operators, vessels, and passengers. Care must be taken to provide a high level of security, maintenance, information, and other activities that support the operation of a modern, efficient system of water transportation. Provisions must also be made to ensure that proper vessel support services are available on the wharves and are sufficiently maintained.

As most wharves that serve as water transportation terminals are privately developed, many support services and operations will be provided by the project's developers. Through design review and negotiations the Boston Redevelopment Authority, Department of Environmental Quality Engineering and other public agencies are ensuring proper support facilities for water transit at these projects. Developers are required to provide proper security, lighting, landscaping, maintenance, rest rooms, waiting/ticketing areas, and other amenities.

In addition, waterfront developers must provide proper support services for vessels such as electricity, potable water, trash collection, safe accessible docking facilities, fueling and storage facilities, as well as showers and restrooms where applicable. In the cases of wharves being publicly managed (such as Long Wharf (BRA/DEM), Logan Airport (Massport), and the Charlestown Navy Yard (BRA), a similar amount of these support services must also be provided. Without such efforts to manage and upkeep landside wharf

CHAPTER 9

Management Issues

- Commuter Boats

  Many commuter boats provide limited accessibility to handicapped riders. Where boats are older and not accessible to riders, any services that are provided in inaccessible locations will be provided to handicapped riders. When new equipment is ordered, accessibility must be considered in the design of the new equipment.

- Sensitivity Training

  In order to ensure that personnel working on the commuter boats provide proper assistance to handicapped persons, particularly until an accessible docking system is developed, sensitivity training should be provided. The training should be developed in conjunction with the Mayor's Commission on Handicapped Affairs. This type of training is not mandatory, however, it would protect against complaints against the service or the BRA.

- The State Constitutional Amendment of 1980 states that "no otherwise qualified handicapped individual solely by reason of his handicap shall be excluded from the participation in, denied the benefits of, or be subjected to discrimination under any program or activity in the Commonwealth;

- The Public Accommodation Law, enforced by the Massachusetts Commission Against Discrimination, provides that "all persons...(including disabled persons)...have the right to the full and equal accommodations, advantages, facilities and privileges of any place of public accommodation." A "place of public accommodation" is defined, in part, as being "a carrier, conveyance or elevator for the transportation of persons, whether operated on land, water or in the air, and the stations, terminals and facilities appurtenant thereto;" and

- The Rules and Regulations promulgated by the Architectural Barriers Board pursuant to its authority under Chapter 22, Section 13A, are designed to make public buildings accessible to, functional for, and safe for use by physically handicapped persons. According to the Purpose and Scope of the Board's rules and regulations, effective April 1, 1982, Section 2.2 states: "It is the intent of the rules to provide physically handicapped persons full and free use of all buildings and facilities so that all such persons may have the educational, employment, living and recreational opportunities necessary to be self-sufficient as possible and to assume full responsibilities as citizens." According to Section 3.1, the Board's jurisdiction applies to "All construction, reconstruction, alteration, remodeling and changes of use of public buildings or other facilities open to the public..."

In order to develop a solution to the problem of overcoming the technical problems of handicapped accessibility, the BRA should contract with a consultant who specializes in barrier-free design, or develop a design competition for the formulation of design guidelines. These guidelines should include the following:

- Docks, Ramps and Gangways

  Docks should be constructed with well laid, even, non-slippery surfaces, with the edges of the docks having an 18" wide area of a different texture and color to warn visually impaired persons of the edge. Seating areas must be provided every 250+ feet.

  Ramps or gangways must be of a slope no greater than 1:12.

W.A.R.T.S. (WATERWAY RAPID TRANSIT SYSTEM)

OPTIONS UNDER DEVELOPMENT

DESIGN GOALS

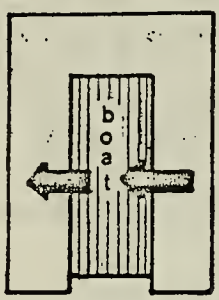
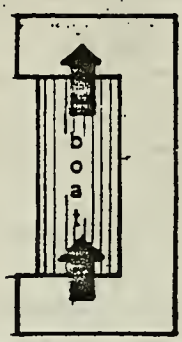
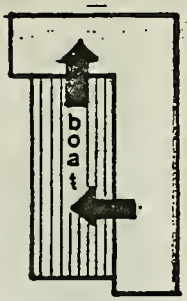
MODEL	PASS. CAP. SEATED / CREW	L.O.A. / BEAM / DRAFT	SERVICE SPEED FULL LOAD	FUEL CONS. / BHP	BOAT COST / DELIVERY	PROPULSION SYSTEM	TERMINAL SYSTEM	FEATURES
W2 160	160 / — / 1-2	60'-0" / 30'-0" / 3'-0"	30 KNOTS	100 GPH / 2000	$750,000 / 4 MONTHS	WATER JET OR SURFACE PIERCING PROPELLERS GEARED DIESEL	SELF-LOCKING 12' ENTRANCE-EXIT WIDTH LOOP-THRU SIMULTANEOUS LOADING - UNLOADING	FAST, ECONOMIC SHALLOW DRAF PASSENGER SPA CAN BE ARRANGED FOR; COMMUTER EXCURSION OR LUNCHEON CRUISES.
W2 224	224 / — / 1-2	70'-0" / 35'-0" / 6'-4"	30 KNOTS	125 GPH / 2500	$1,250,000 / 5 MONTHS	QUADRUPLE SCREW, GEARED DIESEL	SELF-LOCKING 16' ENTRANCE EXIT WIDTH LOOP-THRU SIMULTANEOUS LOADING - UNLOADING	FAST, ECONOMICAL PASSENGER SPA CAN BE ARRANG FOR; COMMUT EXCURSION OR LUNCHEON CRUIS
W2 348	348 / — / 1-2	84'-0" / 41'-0" / 6'-6"	30 KNOTS	150 GPH / 3000	$2,000,000 / 6 MONTHS	QUADRUPLE SCREW, GEARED DIESEL	SELF-LOCKING 25' ENTRANCE-EXIT WIDTH LOOP THRU SIMULTANEOUS LOADING - UNLOADING	FAST, ECONOMIC PASSENGER SPACES CAN BE ARRANGED FO COMMUTER, EXCURSION OR LUNCHEON CRUISES.
W2 502	502 / — / 2-3	100'-0" / 50'-0" / 6'-6"	13-18 KNOTS	70-100 GPH / 1400-2000	$3,000,000 / 9 MONTHS	TWIN SCREW, GEARED DIESEL (OPTION: QUAD. SCREW)	SELF-LOCKING 30' ENTRANCE EXIT WIDTH LOOP-THRU SIMULTANEOUS LOADING - UNLOADING	EFFICIENT, ECONOMICAL
W2 770	770 / — / 2-3	128'-0" / 67'-0" / 8'-6"	15-20 KNOTS	80-130 GPH / 1600-2600	$4,500,000 / 12 MONTHS	TWIN SCREW, GEARED DIESEL (OPTION: QUADRUPLE SCREW)	SELF-LOCKING 44' ENTRANCE EXIT WIDTH. LOOP-THRU SIMULTANEOUS LOADING - UNLOADING * ALL WARTS EMPLOY FIRST ON-FIRST OFF LOADING-UNLOADING PRINCIPLE	PASSENGER SPACES CAN BE ARRANGED FOR: COMMUTER EXCURSION LUNCHEON OR DINNER DANCE CRUISES R MAXIMUM BOAT UTILIZATIO

CONCEPTS DRAWN ARE PROPERTY OF JOHN N. CASE, P.E.

GELL PROJ NO 88-008

TERMINAL BASIC TYPES (PEOPLE ONLY)

ROUGH MAGNITUDE COMPARISONS +

		DESCRIPTION	TIME + (load — unload)	CAPITAL + COST	EXAMPLES	MANNING +
A		SIDE TO SIDE	1.0	6.0	VANCOUVER BC (SEA-BUS)	2
B		END TO END	1.5	4.0	?	2
C		SIDE TO END	1.5	3.0	RIO DE JANEIRO	2
D		SIDE TO SAME SIDE	2.0	2.0	SEATTLE SAN FRANCISCO HONG KONG	1
E		END TO SAME END	3.0	1.0	NEW YORK	1

- Aesthetics and Amenities: Since open decks are considered unnecessary uses of space on boats used for short runs, large windows should be a consideration. For the same reason (short travel distances) few passenger amenities are needed beyond what is provided on MBTA buses and cars. However, some exposed deck area would probably enhance excursion use. Washroom facilities for passengers and crew are probably required.

The diagrams on the following page are representative of the boats designed and/or currently in operation for commuter purposes in Boston Harbor.

Handicapped Access*

The two most difficult problems to overcome in trying to provide for "full and equal" access are making the commuter boats and docks readily accessible to and usable by disabled commuters.

Several existing laws provide a framework which outline minimum standards for providing handicapped accessibility to programs, activities, services and facilities.

Three of the most important state laws protecting disabled persons from discrimination are as follows:

---

*Important Definitions

"Handicapped Persons" means any person who (1) has a physical or mental impairment which substantially limits one or more major life activities, (2) has a record of such an impairment, or (3) is regarded as having such an impairment.

"Major Life Activities" means functions such as caring for one's self, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working.

"Qualified Handicapped Person" with respect to services, means a handicapped person who meets the essential eligibility requirements for the receipt of such services.

Service areas should be separated for large and small boat needs.

Long-term equipment storage should be provided within close proximity to marina facilities.

Overnight docking facilities should be provided within the Inner Harbor. This service might be incorporated into the maintenance/repair/dry dock area.

Vessels

The variety of commuter, shuttle, and excursion vessels currently operating in Boston Harbor allow easy examination of the base characteristics needed for an efficient and feasible system. While the most difficult variable appears to be that of size (current operators being somewhat limited by outdated designs), the following is a list of the minimum characteristics that should be considered in the boat selection for the Inner Harbor ferry:

- Size: As stated in reference to the adequacy of the proposed Fan Pier dock, a range in length from 50 to 65 feet seems to be the most convenient. In order to clear the Charlestown Bridge, a clearance height of no greater than 22' is required. Most boats either in operation or being built for similar purposes fit these criteria easily.

- Passenger capacity: While capacity should finally be dependent upon the expected ridership, boats with 44, 75, and 100 passenger capacities have been built successfully within the above size guidelines.

- Speed: The most recent draft of the revised Boston Harbor regulations sets an Inner Harbor speed limit of 10 MPH and requires that "no vessel shall create a wake or operate at a speed which endangers life, safety or property of any person in Boston Harbor."

- Loading: Design should permit rapid on and off-loading and handicapped accessibility.

- Flexibility: Since no standards have yet been established for docking facilities or onboard facilities, candidate vessels should be adaptable to the wide range of dock sizes and layouts currently in use. Similarly, the vessel should be suited to a number of uses. Quite conceivably, off-peak uses could benefit from passenger amenities not needed during peak hour usage.

- Durability: As evidenced in the early days of the Hingham commuter service, hydrofoils are easily damaged by the debris floating and submerged in the Inner Harbor. Boats should also be designed with the often inclement weather in mind. Local operators boast that only hurricane-force weather has caused cancellation of service.

A prototype shelter should be used for easy identification as part of a system with a public inviting image.

- Signage

Directional signage should be provided to aid water/ground transfers.

Route information should be provided at kiosks along Harborwalk at MBTA rapid transit stations and at water transportation terminals regarding all water transportation systems.

- Public Spaces

Lighting, street furniture, landscaping treatment, paving materials are design considerations for water transportation sites.

Lighting standards should provide well-lighted areas on the landside without producing dangerous glare conditions on the water side.

Street furniture should conform to Harborwalk or higher standards.

Hardy, sea side plant varieties which can withstand salty spray and windy conditions should be used. Evergreen trees can be utilized in some more protected areas to insure greenery in winter months and to provide definition of spaces, frame and reveal vistas, screen to reduce glare, noise and air pollution.

Paving materials can include granite brick and wooden deck. Paving textures should provide assistance to individuals with impaired vision and other disabilities.

- Harborwalk and Connections

Clear and direct public access should be provided to the water transport facilities from surrounding streets. This access should be maximized on all segments from the water's edge to the major rights of way.

Clearly marked and direct pedestrian links should be provided between water transportation facilities and rapid transit stations serving the waterfront.

All public access should maintain barrier-free design criteria.

- Marine Facilities

Marina-Related Considerations

The following marina-related considerations should be kept in mind in the formulation of design guidelines for water transportation landside facilities and terminals:

Maintenance/repair/dry dock facilities need to be provided for all vessel types.

DESIGN ELEMENTS/GUIDELINES

This chapter provides guidelines for landside facilities and terminals, for vessels and for handicapped access. At some future date, it might be appropriate to develop some of these guidelines into zoning code or building code requirements.

Landside Facilities and Terminals

- Boat Access to Docking

  Nautical rights-of-way should be studies with respect to the location of docking facilities and landing areas.

  Docking systems should conform to the prototype standards which are being developed by the BRA.

  The type of the vessel must be correlated to the need for dock length.

  Loading/unloading of passengers, equipment, fuel, trash, etc. needs to be incorporated into the docking layout for maximum efficiency.

- Terminals

  A more elaborate terminal facility should be provided for commuter and excursion boats.

  The terminals should be lighted, temperature-controlled ticketing outlets which incorporate a more complex design program; including transportation and general information kiosks, public toilets, water fountains, seating areas, queuing area, public telephones, boat operators base/office, storage areas for sewage and trash removal, concession services and ample storage areas for assorted needs.

- Shelter

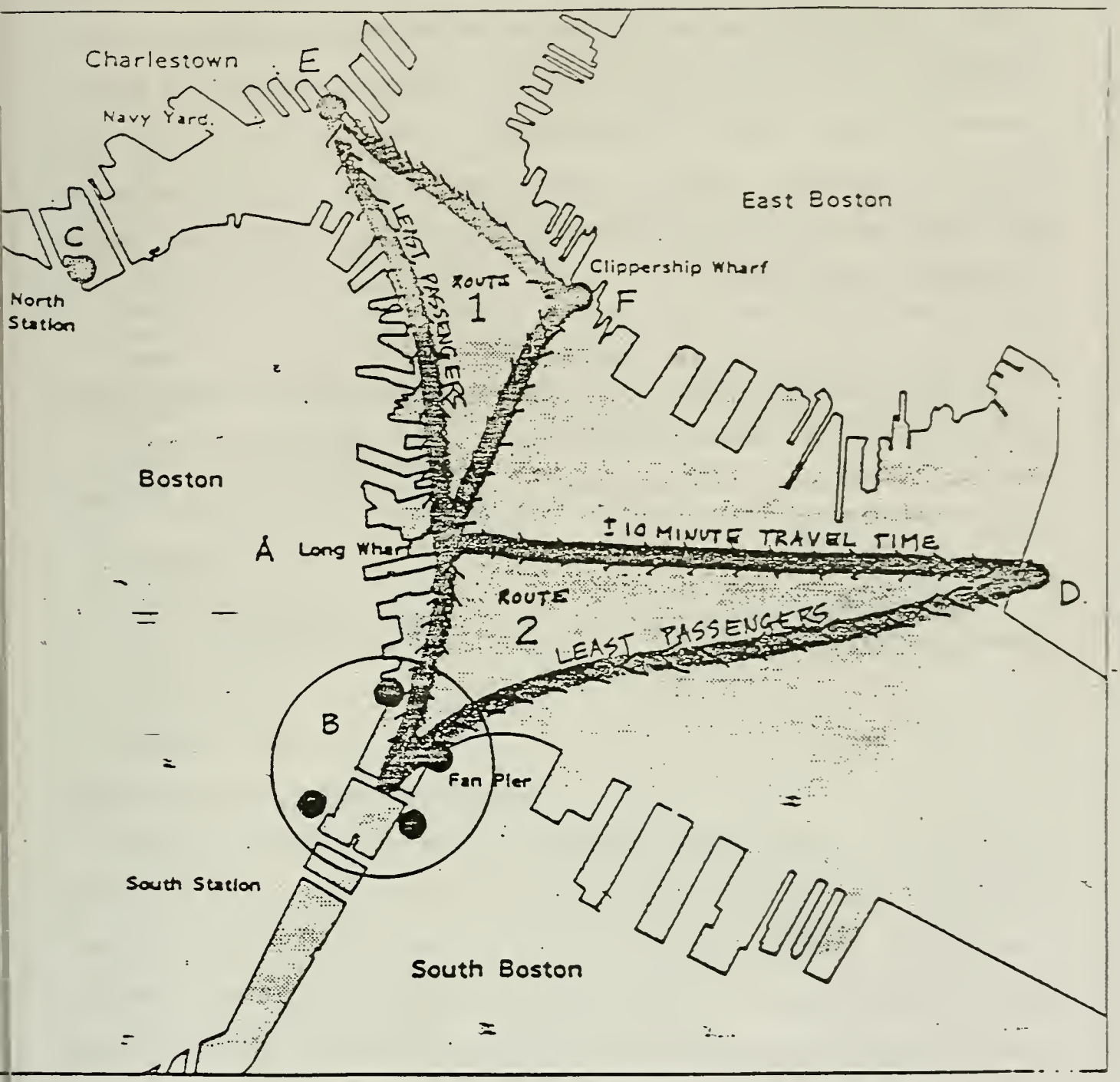
  A basic shelter should be provided on the landside to protect from wind, rain and snow.

  The shelter should be lighted and be provided with temperature controlled environment. Basic design elements to be included are cover, wind, rain and snow breaks, seating, trash receptacles, and ticket machines. This type of basic shelter should be used for water taxi and shuttle system boats.

CHAPTER 8

Design Elements/Guidelines

FIGURE



A.M. PEAK HOUR ROUTES FOR CONSIDERATIO

Route 2: In the morning, the peak hour travel demand will be primarily from the Fort Point Channel/Fan Pier area to downtown, for workers with destinations in the vicinity of Long Wharf. There is expected to be some demand, although limited, for workers and travellers to Logan Airport. The link that is expected to have the least number of passengers and represents the longest route in distance and time is the one from Logan Airport to the Fort Point Channel area.

Consolidating Routes 1 and 2: Having a common nexus at Long Wharf would allow commuting boating passengers to go to Logan Airport. Fan Pier residents and South Station commuters could also travel quickly to the Navy Yard.

Consideration should be given to having both services terminate at Long Wharf, to permit an efficient interchange of passengers. Therefore, Navy Yard passengers could go to the Airport and vice versa. If the South Shore commuter boat also docked at Long Wharf, an additional opportunity would exist for direct linkages between these routes and provide immediate access to the Aquarium T stop.

- Short Term (See Figure 7-F)

  In the next 2-4 years, as the Fan Pier and Clippership Wharf projects become a reality, and as more residents move into the Navy Yard, there will be more potential for creating Inner Harbor express services, to connect various points together. In such a way, as demand increases, more boats might be added to the loop to increase the frequency of service, rather than to provide a round-trip exclusive loop to only one point. However, it is important to offer the service and try to develop a boat transit dependency, which can increase over time. With a multiple-stop-loop, some points obviously will have different levels of transit-demand, depending on the stage of completion and occupancy of waterfront development projects.

  Two morning and afternoon peak hour routes might be considered:

  Morning

  1. Long Wharf to Navy Yard to Clippership Wharf to Long Wharf.
  2. Long Wharf to Logan Airport to Fort Point Channel to Long Wharf.

  Afternoon

  Reverse routes.

Route Analysis and Recommendations

Route 1: In the morning, the peak hour travel demand will be from the Charlestown Navy Yard and East Boston/Clippership Wharf area to downtown. The longest leg of the journey in time and distance within the loop is from Long Wharf to the Charlestown Navy Yard, Pier 4. Currently the trip takes about 10 minutes during the morning, this link is expected to have the least number of passengers. Therefore, the routing from the Navy Yard to Clippership Wharf will be able to capture the largest number of passengers and provide an acceptable level of express service to downtown.

a two minute walk to commuter train platforms and a four minute walk to the Orange and Green Line stations. From both the T Station and the commuter rail, the walks are covered for some of the distance. In addition, the Charles River Dam provides a convenient and much used connection to City Square in Charlestown. Therefore, Charlestown residents from this area may also be encouraged to use the Inner Harbor Ferry during commuting hours.

The Charlestown Bridge has a 22' clearance at mean high water, ample for most suitably sized boats. However, Central Artery planners should reserve the location for a North Station landing.

- Logan Airport: The Logan Airport dock site has been serving as a boat terminal since 1985. Although only 120 linear feet of dock space has been available, the docking capacity is not viewed as a constraint. The facility is owned and operated by Massport and could be expanded should demand increase. By connecting airport facilities with North and South Station commuter rail stations, an express boat shuttle would be an attractive, alternative mode, rather than to use the T to get to those destinations.

- Pier 4/Charlestown Navy Yard: The Charlestown Navy Yard has a projected population of 10,000 residents, many of whom will be working in downtown Boston. It also has a projected employee population of 7,000 people, most of whom will be coming to work by public transit. Pier 4 is centrally located to much of the existing and proposed development in the area.

  Residents and workers could utilize the service during peak commuting hours, while visitors to the U.S.S. Constitution and Navy Yard facilities could use the non-express service during off-peak hours.

- Clippership Wharf: In East Boston, the Clippership Wharf site appears to be another high candidate for a future Inner Harbor shuttle service. The project is proposed as a mixed-use development with a significant residential component. It will include complete reconstruction of the piers and provision for numerous water dependent uses. The developer has expressed an interest in options for water transportation. Although the site is located near the Maverick T stop on the Blue Line, the project is expected to generate enough demand to support a water transportation link to the downtown on its own merits.

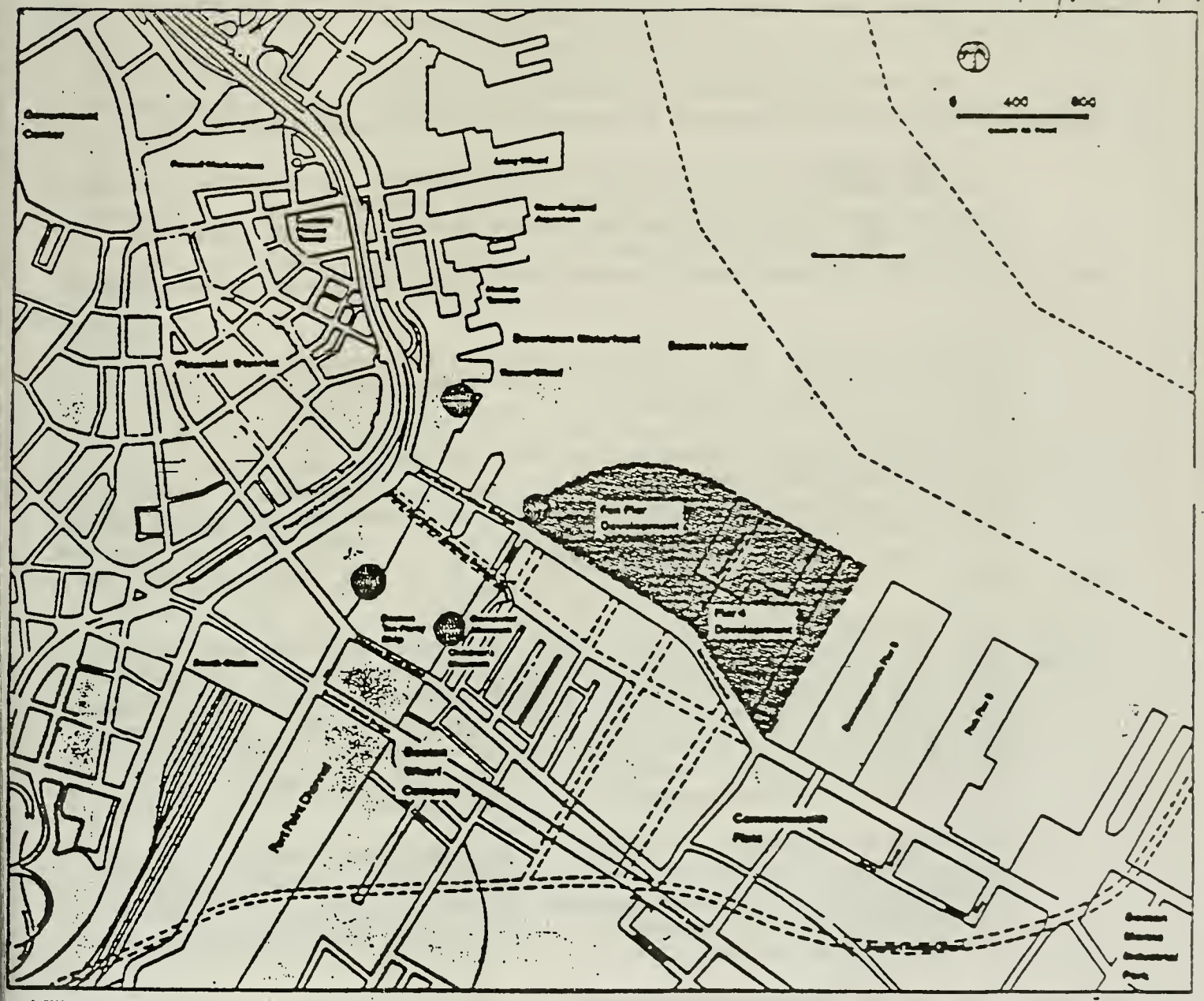
  However, a surface link to the Maverick Station and other major projects in the area would enhance the site's potential as the principal entry into the East Boston residential community.

Recommended Sites and Routes For Express Inner Harbor Shuttle Service

- Immediate

  1. Long Wharf to Pier 4 in Charlestown.
  2. Rowes Wharf to Logan Airport.

Figure 7-1



the Fan Pier project site. Walkways are being designed for both sides of the Channel, and the pedestrian environment should be very pleasant. If commuter rail passengers are provided an economical, efficient express water shuttle to the airport, to the Charlestown Navy Yard or to work sites close to the waterfront, this travel mode might prove very attractive.

Similarly, commuters utilizing the Red Line might find the express water shuttle an attractive alternative to destinations in East Boston, Charlestown or the downtown waterfront.

A decision to utilize the mentioned sites would probably necessitate that the old Northern Avenue Bridge be left in an open position permanently.

The Fan Pier project proposes a shuttle dock on the southwest corner of the site adjacent to the existing Northern Avenue Bridge. The water transportation facility under consideration is a 260 linear foot dock. It has related indoor and outdoor landside facilities. Along this dock, 150 linear feet are being reserved for a proposed Inner Harbor shuttle service.

Although the Fan Pier docking would be a very accessible site to residents of that project, it is a long walking distance from the South Station and Red Line station.

The Rowes Wharf development has 650 linear feet of dock space and a domed waiting area, serving water transportation services. In terms of open air waiting, there is also approximately 3,500 square feet at Rowes Wharf and 1,500 square feet at Fosters Wharf. Commuter boats from the south shore and an express shuttle from the airport currently dock at the site.

The Rowes Wharf site is a long walking distance from the South Station/ Red Line Station and, therefore, would probably not capture much ridership from that nexus. If the old Northern Avenue Bridge remained closed or provided an exclusive pedestrian bridge across the Channel, the Rowes Wharf site would be accessible to Fan Pier residents. Of the four sites considered, Rowes Wharf appears the least suitable in terms of location for capturing a large ridership population.

Within the Fort Point Channel area, only one express shuttle dockage site can be supported from a demand point of view. Since loading/ unloading time for the express water shuttle is an average of five minutes per stop, it is impractical to stop twice, since pedestrians can walk the distance more quickly.

Therefore, although these four sites should be evaluated more carefully, only one stop is desirable to maintain the "express" quality of the shuttle. The permanent closing of the existing Northern Avenue Bridge would limit two of the options and would restrict system flexibility.

- North Station: Another site satisfying many of the stated criteria is a publicly-owned waterfront property near the Charles River Dam. Owned by the MDC, the site is adjacent to the Marine Police Facility, less than

wharves closest to the following attractions: USS Constitution/Navy Yard, Lewis Wharf Museum Ship (proposed), Old North Church, Aquarium, Fan Pier Cultural Museum (proposed), Museum Wharf, Computer Museum, Tea Party Ship, and JFK Library. (See Figure 7-D).

Sites To Consider For Express Inner Harbor Shuttle Service

Utilizing the site profiles of Chapter 5, each potential site was evaluated for its satisfaction of the stated criteria.

Several sites stand out as more qualified than others for further consideration. In order of importance and development sequence, they are as follows:

- Long Wharf: Of all the sites considered, Long Wharf has the greatest number of advantages. Even though commuter and excursion boats currently dock at Long Wharf, the State DEM and the BRA are in the process of redesigning the area to accommodate Inner Harbor shuttle boats and facilities. In addition, any dock space at Long Wharf would be convenient to both the Blue Line Aquarium MBTA stop and the New England Aquarium, a major tourist attraction.

- Several alternative sites for dockage of the inner harbor shuttle on Long Wharf might be considered, and these sites might vary according to seasonal conditions. Inner Harbor shuttle boats (as well as other water transportation systems) could use the outermost and/or new north basin site during the warm weather, when the walk along the pier would be pleasant, and utilize the inner sites during adverse weather, when proximity to the MBTA station is most crucial. There will probably be minimal excursion boat activity, during winter months, which would allow for a more rapid trip to the head of the basin.

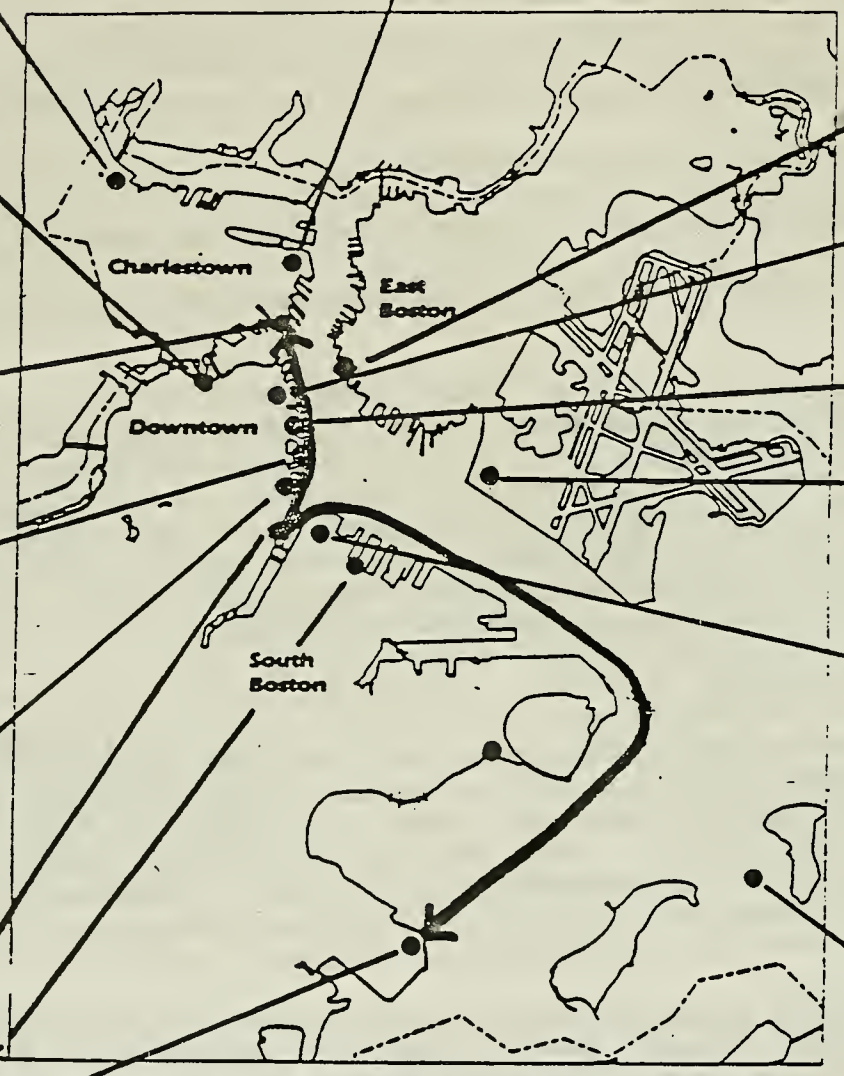
- South Station/Fort Point Channel Area: (See Figure 7-E) is located in Boston's Dewey Square, approximately 600 feet from the Fort Point Channel. It services Red Line rapid transit and commuter rail from Points south and west of Boston. Transportation connections to the site are very attractive.

  Current bridge clearances under the Congress and Summer Street bridges (6 and 4 feet respectively, at high tide) are too low for any commercial boat currently in use or under consideration by local operators.

  However, a dockage site between the Congress Street Bridge and the proposed New Northern Avenue Bridge on either the north or south sides of the Fort Point Channel might be considered, because of its approximately equal distance to the South Station/Red Line nexus and

FIGURE 7-D

HARBORPARK



BOSTON HARBOR WATER TRANSPORTATION SITES

CHARLESTOWN NAVY YARD (pier 11):
- 300 feet of dock space
- completed in 1991

SCHRAFFT CENTER:
- 520 feet of dock space
- completed in 1990

NORTH STATION:

CLIPPERSHIP WHARF:

LINCOLN WHARF:
- 550 feet of dock space
- completed in 1989

CHARLESTOWN NAVY YARD (pier 4):
- 300 feet of dock space
- completed in 1989

LEWIS WHARF

LOGAN AIRPORT:
- 120 feet of dock space
- completed in 1985

LONG WHARF:
- 3,240 feet of dock space
- completed in 1989

FAN PIER/PIER 4:
- 1000 feet of dock space
- completed in 1992

KELLY'S LANDING:

ROWES WHARF:
- 650 feet of dock space
- completed in 1987

SOUTH STATION:
FORT POINT

HARBOR ISLANDS STATE PARK:
- 3,500 feet of dock space
- completed in 1990

COMMONWEALTH PIER

KENNEDY LIBRARY:
- 180 feet of dock space
- completed in 1988

CULTURAL ROUTE

ROUND-TRIP

CITY OF BOSTON,
RAYMOND L. FLYNN, MAYOR

Boston Redevelopment Authority,
Stephen Coyle, Director
Robert J. Farrell, Chairman
Joseph J. Walsh, Vice-Chairman
James K. Flaherty, Treasurer
Clarence J. Jones, Vice-Treasurer
Michael F. Donlan, Member
Kane Simonian, Secretary

HARBORPARK

CHARLESTOWN NAVY YARD (pier 1):
- $4 million project
- 300 feet of dock space
- completed in 1991

SCHRAFFT CENTER:
- $3 million project
- 520 feet of dock space
- completed in 1990

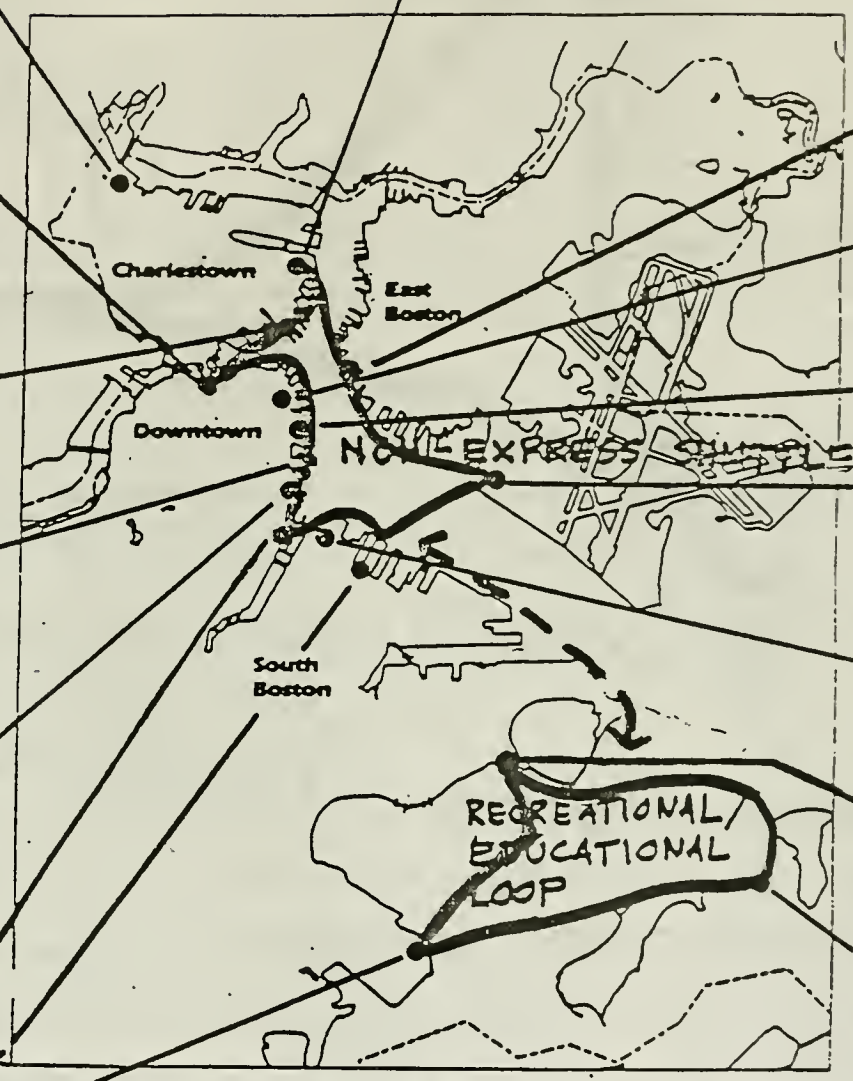
NORTH STATION:

CLIPPERSHIP WHARF:

LINCOLN WHARF:
- $6.5 million project
- 550 feet of dock space
- completed in 1989

CHARLESTOWN NAVY YARD (pier 4):
- $4 million project
- 300 feet of dock space
- completed in 1989

LEWIS WHARF



LOGAN AIRPORT:
- $2.5 million project
- 120 feet of dock space
- completed in 1985

LONG WHARF:
- $9 million project
- 3,240 feet of dock space
- completed in 1989

FAN PIER/PIER 4:
- $2.3 million project
- 1000 feet of dock space
- completed in 1992

ROWES WHARF:
- $18 million project
- 650 feet of dock space
- completed in 1987

KELLY'S LANDING:

SOUTH STATION:
FORT POINT

HARBOR ISLANDS STATE PARK:
- $35 million project
- 3,500 feet of dock space
- completed in 1990

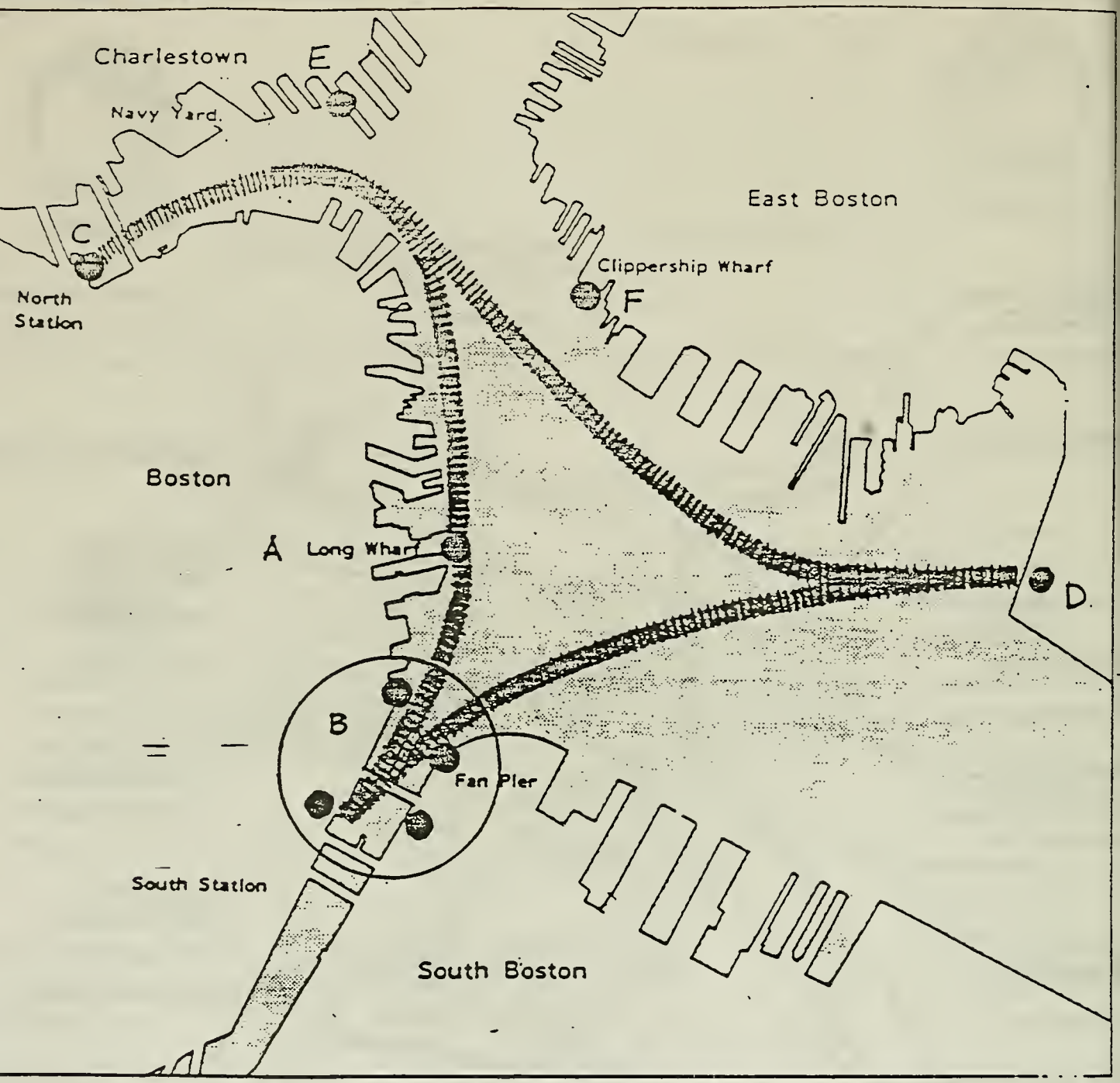
COMMONWEALTH PIER

BOSTON HARBOR WATER TRANSPORTATION SITES

KENNEDY LIBRARY:
- $1.2 million project
- 180 feet of dock space
- completed in 1988

CITY OF BOSTON
RAYMOND L. FLYNN, MAYOR

Boston Redevelopment Authority
Stephen Coyle, Director
Robert J. Farrell, Chairman
Joseph J. Walsh, Vice-Chairman
James K. Flaherty, Treasurer
Clarence J. Jones, Vice-Treasurer
Michael F. Donlan, Member
Kane Simonian, Secretary



II INTERMODAL DEMAND

6 AM-12PM REGIONAL INTER-MODAL CONNECTION

2. Intermodal Demand

Demand exists for the transfer of travellers and workers from:

North Station to:	Logan Airport South Station Downtown CBD
South Station to:	Logan Airport North Station Downtown CBD
Long Wharf to:	Logan Airport South Station North Station

Since rail commuters coming into North and South Stations with airport destinations need to transfer between several T lines, and surface commuters can get caught up in Logan Tunnel traffic (bus, taxi), a water route appears an attractive alternative. (See Figure 7-B).

3. Non-Peak Hour Travel Demand

Some of the fleet that is available for peak hour travel demand could be used as an inner harbor excursion loop, linking together various tourist attractions, cultural facilities, educational institutions and recreation areas in the Harborpark area.

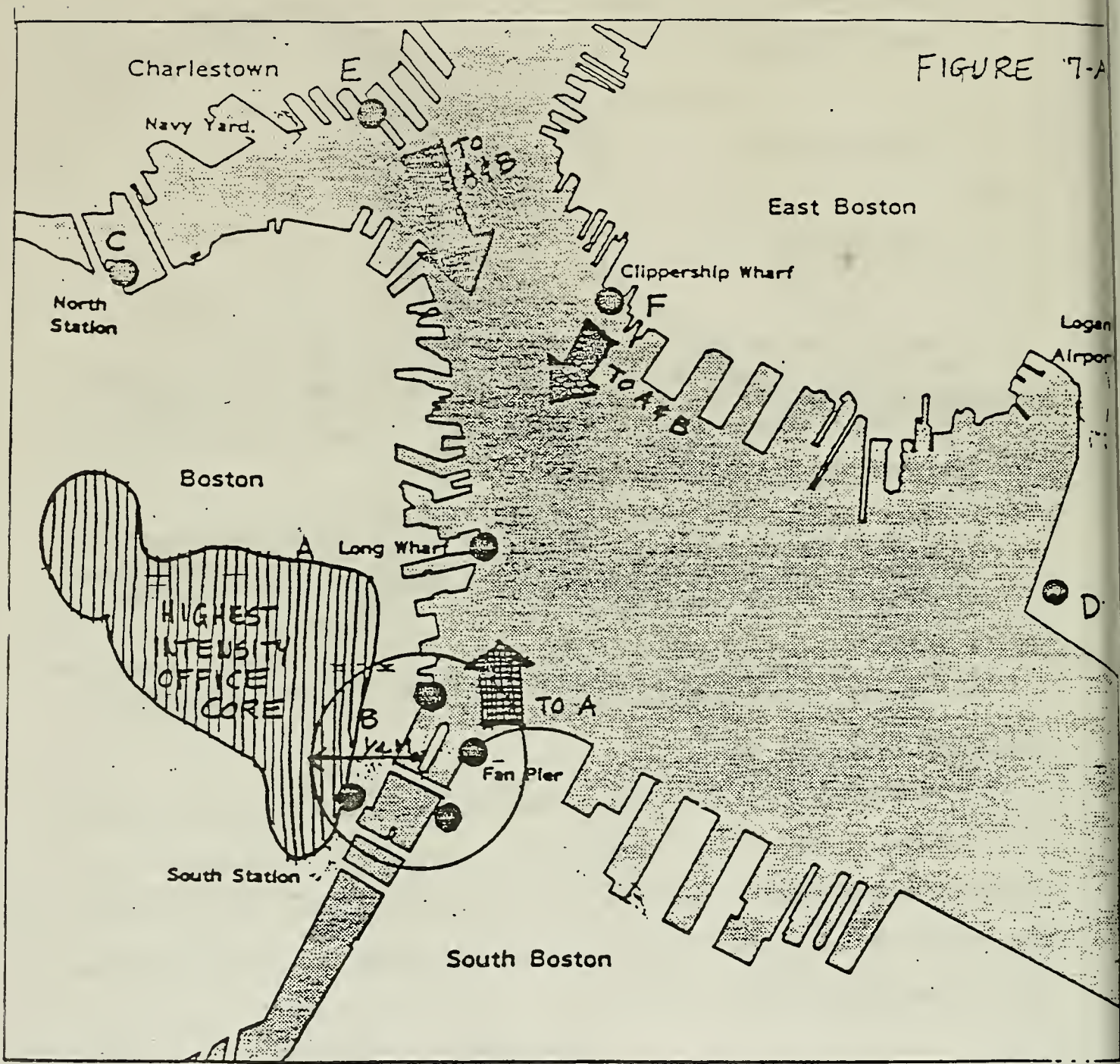
Passengers might purchase a ticket allowing them an unlimited number of stops in one direction for a specified period of time, so they could pick and choose their destinations.

Recreation Loop

Consideration should be given to creating a Dorchester Bay recreation loop, linking the Kennedy Library/U. Mass. Campus, Castle Island Park and Boston Harbor Islands. It would allow tourists and residents to commute by boat during off-peak hours, possibly taking bicycles to tour each of the three sites. (See Figure 7-C).

Cultural Loop

In addition, a cultural round-trip loop might operate during off-hours providing tourists and school children with an opportunity to visit museums and historic sites on or near the waterfront. Stops could be made at the



I. PEAK HOUR TRAVEL DEMAND

4-7 P.M.
1-9 A.M. MAJOR HOME-TO-WORK TRAVEL POTENTI

1. Speed cannot exceed 10 MPH, as established by the Boston Harbormaster. Acceleration/deacceleration time, congestion, maneuvering around buoys, and turning will affect the speed for each link. Since 10 MPH is maximum, an average speed of 7 or 8 MPH is a reasonable rule of thumb for system design.

2. Loading/unloading time will vary between 2 and 8 minutes depending on the concentration of passengers at various points and on the design of vessels and docks. An average time of five minutes is a reasonable rule of thumb.

Shuttle Service Demand

1. Peak Hour Travel Demand

During morning and afternoon rush hour times, Monday to Friday, in the near future, there will be a clear demand to travel between three major residential areas and downtown:

Site E, Charlestown/Downtown

The shortest distance from the Navy Yard to the downtown waterfront is by boat. Traffic is often congested on the Charlestown Avenue Bridge, which delays people coming in by bus, van, taxi or private vehicles. The depression of the Central Artery will exacerbate the surface commute by vehicle, making a water commute even more desirable.

Site B, Fan Pier/Downtown

Although many of the Fan Pier residents will be within walking distance to the CBD, or could utilize a shuttle bus system crossing the Northern Avenue Bridge to downtown, an unknown percentage of the home-to-work commuters will be employed in the office/commercial/government center area near Long Wharf. For them, the shortest, most direct route to reach their destination will be by express boat shuttle.

Site F, Clippership Wharf/Downtown

Although plans are still several years away from being approved, the Clippership Wharf project is a pending major new development in East Boston. Residents will find an express boat shuttle the most direct means of travelling to work downtown, via a Long Wharf or Fort Point Channel entry point. Ridership population will also be captured from nearby East Boston residential areas.

Since all three of these projects have a significant office component, potential also exists for express shuttle boat trips originating at Long Wharf or Fort Point Channel, with destinations at these sites. (See Figure 7-A).

RECOMMENDED SITES AND ROUTES FOR INNER HARBOR SHUTTLE SERVICE

Study Limitations

This chapter discusses sites and routes for the Inner Harbor shuttle (express and non-express service). It does not address the other three services, i.e., excursion, on-demand taxi or regional commuter services. However, direct linkages between the regional commuter service and Inner Harbor shuttle should be encouraged to permit an all-water transportation mode from remote park-and-ride sites to Inner Harbor destinations.

Similarly, the non-express shuttle service needs to be coordinated with State and private excursion services, to avoid duplicating routes and services or undermining the economical feasibility of existing private sector operations.

Very little current information is available concerning the origin/destination and modal usage of commuters within Boston to provide accurate transportation planning scenarios. Projections of ridership potential for the proposed express shuttle system would therefore be very unpredictable.

However, in the future scientifically-derived projections will need to be developed to determine the passenger demand for various sites and routes to demonstrate the economic feasibility of system alternatives, to estimate the size and growth potential of its fleet and to quantify the operation costs/subsidies needed to make it work.

Assumptions in System Design

Whatever routes are proposed for the Inner Harbor shuttle, the system's time will be constrained by two measures:

CHAPTER 7

Recommended Sites and Route for Inner Harbor Shuttle Servi

- Be highly recognizable and distinguished from other smaller boats, so passengers are aware of the vessel's pending arrival.
- Be able to operate under adverse weather conditions.
- Be highly visible to ships, barges, tow boats and other working boats, particularly at times and days when smaller recreational boaters are not usually crossing shipping channels.

- Have origin points at 'park-and-ride'/'kiss-and-ride' sites, able to store large numbers of vehicles that have adequate drop-off and waiting areas.

- Be designed so as to increase the number of vessels and the frequency of service, as and if demand increases.

- Be an attractive transportation mode, even when there are seasonal and weather problems.

- Be able to capture a minimum number of riders from its inception to make the service appear viable (summer start-up).

- Be able to travel at higher speeds in open waters (commuter shuttle).

The <u>excursion service</u> needs to satisfy the following operational criteria:

- Have flexibility in vessel design to accommodate various activities (sightseeing cruises, dinners, seminars, exercise groups, parties, weddings, fishing, etc.).

- Be able to travel at higher speeds in open waters.

- Be able to on-load/off-load food, music equipment, trash, bicycles, and other goods.

- Be available during off-demand seasons for dockside uses and activities that are compatible with neighboring uses (optional, since this is a zoning issue).

- Be an attractive service, even when there are seasonal and weather problems.

- Have on-broad restrooms and food preparation areas.

- Be able to operate during daylight and evening hours.

The Inner Harbor non-express shuttle proposed to be utilized for excursion services during non-peak hours does not need to satisfy the above criteria, except to be able to on-load/off-load bicycles and to operate year-round. Because of the shorter travel distances involved, restrooms can be provided on-shore, not on-board.

The <u>On-Demand Taxi</u> needs to satisfy the following operational criteria:

- Have radio capability allowing necessary communications with dispatchers.

- Be able to maneuver effectively in smaller basins and in congested areas as well as to travel efficiently between origin and destination.

Existing Water Transportation Services

OPERATORS	TYPE OF SERVICE	LOCATION	BOAT NAME	BOAT CAPACITY
Boston Harbor Cruises	Excursion	Long Wharf	Frederick L. Nolan Jr.	550
			Fort Independence	520
			Fort Warren	340
			Martha Washington	210
			Abigail Adams	146
Bay State Cruises	Commuter/Excursion	Long Wharf	Provincetown II	1100
			Commonwealth	600
			Bay State	500
			George's Island	370
			Edward Rowe Snow	200
			Bostonian II	146
Mass Bay Lines	Commuter/Excursion	Rowes Wharf	Freedom	375
			New Boston	450
			Nantascot	250
			Vinyard Queen	100
			Gracious Lady	149
			Sea Breze	49
			Martha's Vineyard	1100
A.C. Cruise Line	Excursion	Pier One (Northern Ave.)	Virginia II	210
Harbor Crossings	Shuttle		Independence	
			Liberty	
Boston Harbor Commuter Services	Commuter		Sterling	149
			Chimera	149
			Dragon Fish	149
			Captain Red	149
Carefree Cruises			San Sousi	149

While the majority of the 35 daily trips stop at Rowes Wharf, a small number land at Commonwealth Pier on Long Wharf. During the summer of 1986, improved facilities at Massport's Bird Island Flats landing were completed, including a covered waiting area and expanded dock. Massport is expected to increase the frequency of service to the airport as additional waterfront developments are constructed. Developers of waterfront projects are also talking with Massport about the possibility of landing rights for hotel, water shuttles and taxis at the Bird Island Flats' dock.

- Excursion Services
  Harbor Islands Transportation

  Three operators (Bay State-Provincetown Cruises, Mass Bay Lines, Inc., and Boston Harbor Cruises) conduct a total of 10 excursion trips on weekdays and 11 excursion trips on weekends between Georges Island and either Rowes Wharf or Long Wharf during the spring, summer, and fall months. A limited number of these runs stop at Peddock's Island, while others stop at the U.S.S. Constitution site in the Charlestown Navy Yard. An interisland taxi service operates between excursion docks in the Boston Harbor Islands State Park, which is made up of Georges, Lovells, Gallops, Peddocks, Bumpkin, and Grape Islands.

- Cruises and Charters

  Four operators (A.C. Cruise Line, Bay State-Provincetown Cruises, Boston Harbor Cruises, and Mass Bay Lines, Inc.) provide cruise and charter services from Boston Harbor. Options range from local Inner Harbor/South Shore cruises and concert and dinner cruises to special occasion charters. Longer cruises include trips to Gloucester and Provincetown, and whale watches.

System Criteria

The Inner Harbor express shuttle service and the regional commuter service need to satisfy similar operational criteria, as follows:

- Be able to move passengers from origin to destination in a time similar to or shorter than other modal alternatives (rapid transit, bus, taxi or private vehicle).

- Be able to move passengers from origin to destination at a cost competitive with other modal alternatives.

- Operate according to a fixed schedule and with relatively short intervals between service.

- Be able to respond with a high degree of efficiency during peak hour demands.

- Have origin points near other public transit transfer alternatives to reduce peak load concentrations (especially shuttle service).

SYSTEM ANALYSIS: EXISTING CONDITIONS AND OPPORTUNITIES

Profile of Existing Services

Allowing for seasonal operating schedules, three types of water transportation services are currently available in Boston, i.e., commuter, shuttle and excursion services. Although these services often have different purposes, facilities and markets, elements from each can potentially help to structure and direct the establishment of the proposed Inner Harbor shuttle. Figure 1, on p.___ identifies the existing water transportation terminals and routes. Figure 2, on p.___ provides additional detail on the the downtown landings and routes.

- Commuter Services

  As of December 1986, four local boat operators were offering commuter service from various South Shore locations to docks in the Inner Harbor: (1) Boston Harbor Commuter Service and (2) Mass Bay Lines, Inc. operate between the Hingham dock in the Hingham Shipyard on Route 3A and Rowes Wharf; (3) Bay State-Provincetown Cruises runs from Pemberton Point in Hull to Long Wharf; and (4) the Marina Bay Commuter service connects the Marina Bay Development in Quincy to Rowes Wharf, Long Wharf, and Commonwealth Pier.

  Modern commuter boat service in Boston Harbor has been in operation since 1979, and has experienced rapid expansion in service and ridership as well as continued upgrading of support facilities. With the four operators making a total of 19 round trips each weekday between three South Shore locations and the downtown (May-December schedule), approximately 1,600 commuters were carried round-trip each day during the summer. Ridership figures drop off to 1,200 passengers per day in the fall, winter and spring months.

- Airport Water Shuttle

  In July 1985, Massport introduced an airport water shuttle service across the Inner Harbor to three downtown locations. Airport buses, scheduled to coincide with boat arrival and departures, transport passengers between the shuttle dock at Bird Island Flats to the Logan Airport terminals. Operation is seasonal and operated in 1986 from May to December with a one-way fare of three dollars between downtown Boston and Logan. Ridership during 1986 totalled 350,000 passengers, an increase of 135% over the 1985 figures.

CHAPTER 6

System Analysis: Existing Conditions and Opportunities

MATRIX: POTENTIAL FOR WATER TRANSPORTATION SERVICES

	SITE	ROWES WHARF				LONG WHARF				LEWIS WHARF				LINCOLN WHARF				NORTH STATION/ BEVERLY STREET				CHARLESTOWN NAVY
	CRITERIA	Shuttle	Commuter	Taxi	Excursion	Shuttle	Commuter	Taxi	Excursion	Shuttle	Commuter	Taxi	Excursion	Shuttle	Commuter	Taxi	Excursion	Shuttle	Commuter	Taxi	Excursion	Shuttle	Commuter
POPULATION CENTERS	WALKING DISTANCE TO THE DOWNTOWN OFFICE/COMMERCIAL CORE	●	◒	○	○	●	●	○	○	◒	◒	○	○	◒	◒	○	○	◒	◒	○	○	◍	◍
	WALKING DISTANCE TO LARGE NUMBERS OF DWELLING UNITS	●	○	○	○	●	○	○	○	◒	○	○	○	◒	○	○	○	◒	○	○	○	●	○
	PROXIMITY TO HIGH INCOME RESIDENTS/ WHITE COLLAR EMPLOYEES	○	○	●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	◒	○	○	○
SERVICES	CLOSE TO TOURIST/ CULTURAL FACILITIES	○	○	◒	◒	○	○	●	●	○	○	◒	◒	○	○	◒	◒	○	○	◍	◍	○	○
FACILITIES	CLOSE TO HOTEL FACILITIES	○	○	●	●	○	○	●	●	○	○	●	●	○	○	◒	◒	○	○	●	●	○	○
TRANSPORTATION	RAPID TRANSIT CONNECTIONS	◒	◒	◒	◒	●	●	○	●	◒	◒	○	◒	◒	◒	○	◒	●	●	○	●	◍	◍
	COMMUTER RAIL CONNECTIONS	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	○	○	●	○	○
	NOT MORE THAN 2 MIN. BOAT TRAVEL TIME TO OTHER SITES WITH RAPID TRANSIT CONNECTIONS	◍	○	○	○	●	○	○	○	◍	○	○	○	◍	○	○	○	●	○	○	○	●	○
	HIGH DENSITY AREA SEPARATED FROM DOWNTOWN BY HARBOR	◍	○	○	○	◍	○	○	○	◍	○	○	○	◍	○	○	○	◍	○	○	○	●	○
	WITHIN ONE MILE WATER-ROUTE DISTANCE FROM LONG WHARF	●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	●	○	○	○	●	○
	SUMMARY SCORE	3.5	1.5	2.5	2.0	5.0	2.0	3.0	3.0	2.5	1.0	2.5	2.0	2.5	1.0	2.0	1.5	5.0	1.5	1.5	3.0	4.0	0.0

LEGEND: ● good ◒ fair ◍ poor/inadequate ○ n.a.

	Express Shuttle	Regional Commuter	Excursion	On-Demand Taxi
Rowes Wharf	3.5	1.5	2.0	2.5
Long Wharf	5.0	2.0	3.0	3.0
Lewis Wharf	2.5	1.0	2.0	2.5
Lincoln Wharf	2.5	1.0	1.5	2.0
North Station	5.0	1.5	3.0	1.5
Navy Yard/Pier 4	4.0	0.0	1.5	2.5
Navy Yard/Pier 11	3.5	0.0	1.5	2.5
Schrafft Center	2.0	0.5	0.5	0.5
Clippership Wharf	4.5	0.5	0.5	1.0
Logan Airport	3.0	1.0	2.0	2.0
Fan Pier/Pier 4	4.5	1.0	2.0	2.5
Kennedy Library	1.0	0.0	1.0	1.0
Commonwealth Pier	1.0	0.0	0.0	0.0
South Station/Fort Point Channel	5.5	2.0	3.5	1.5

- o Close proximity to large numbers of dwelling units and hotel facilities.

- o Close proximity to tourist/cultural attractions, educational facilities, recreation areas, e.g.,:

  - Northern Avenue Facilities (Children's Museum, Computer Museum, Boston Tea Party Ship);
  - New England Aquarium;
  - U.S. Constitution/Navy Yard;
  - JFK Library/U.Mass.;
  - Boston Garden;
  - Quincy Market/Faneuil Hall area; and
  - Public recreation areas.

Excursion

- o Close proximity to hotel facilities.

- o Close proximity to tourist attractions and cultural facilities.

- o Close proximity to existing rapid transit and commuter rail connections.

Water-Taxis

- o Proximity to high income residents/white collar employees who are able to pay rates (Airport, Fan Pier, Navy Yard, Clippership Wharf, Rowes Wharf, other North End projects).

- o Proximity to hotel and tourist facilities.

Matrix Summary

Each of the sites was evaluated against the stated criteria. No difference was made in weighing each of the criteria.

The level of satisfaction of the criteria was rated as follows:

- Good: Single whole circle (one point)

- Fair: half circle (half point)

- Poor/Inadequate: striped circle (no point)

- Not Applicable: hollow circle (not considered)

The results of the matrix are summarized below. Sites with the highest numeric score for each particular service are considered the prime candidates for future analysis.

Site Location Criteria for Types of Services

Each of the types of water transportation services has specific site location criteria that enhance its economic and operational feasibility.

Some of these criteria are the same for different types of services. As an example, commuter boats and express Inner Harbor shuttles need to operate very efficiently in transportation rush hour commuters. They require destinations close to existing public transit connections and within walking distance to the downtown office/commercial core. Inner Harbor non-express shuttles and excursion boats similarly need docking sites close to hotels and facilities with cultural, educational and recreational attractions.

Site location criteria are proposed below for four types of services: regional commuter, Inner Harbor shuttle (express and non-express), excursion, and water-taxi. The non-express Inner Harbor shuttle is conceived of as the same type of vessel as the express shuttle. It would operate during non-peak hours and stop at more sites within the Inner Harbor.

Regional Commuter

- Within walking distance to the downtown office/commercial core.
- Close proximity to existing rapid MBTA transit connections.

Inner Harbor Shuttle/Express

- Close proximity to existing public transit and commuter rail connections.
- Minimum boat travel time of two minutes to other sites having rapid transit connections.
- Walking distance to the downtown office/commercial core.
- Close proximity to large numbers of dwelling units.

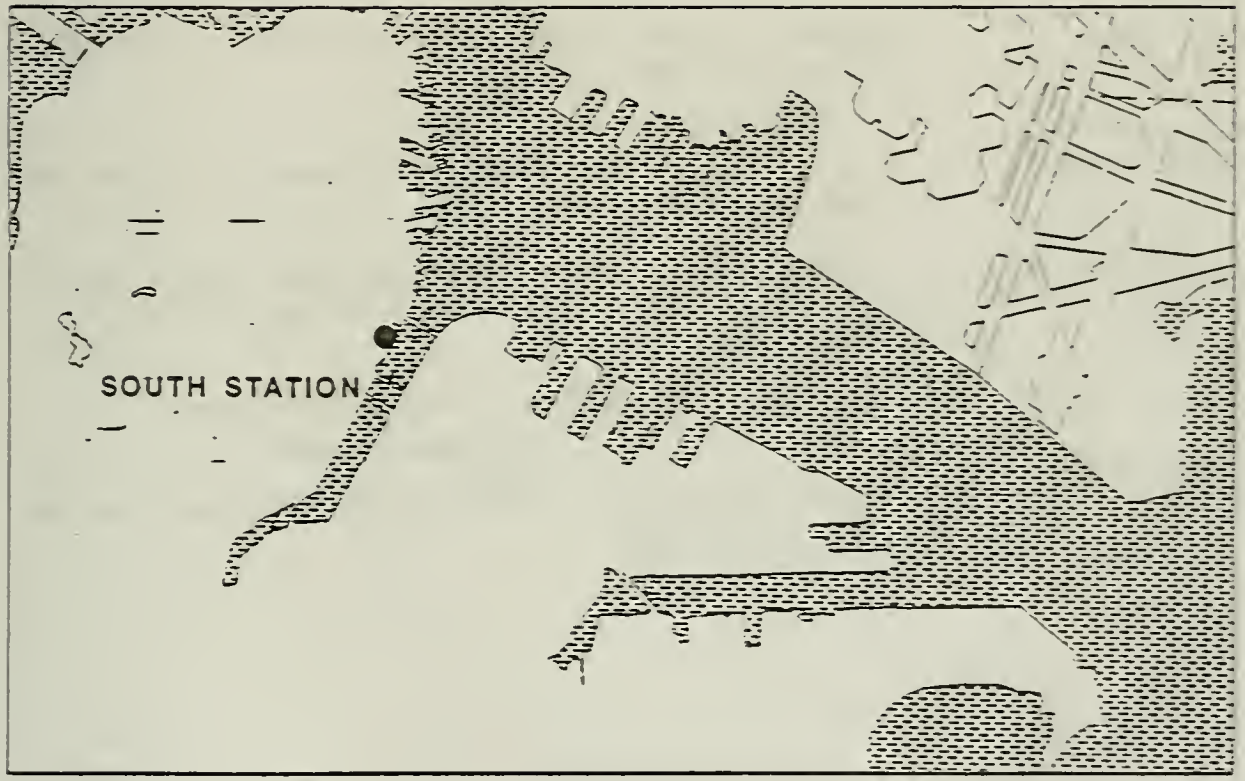
Inner Harbor Shuttle/Non-Express

- Close proximity to existing public transit and commuter rail connections.

SOUTH STATION/FORT POINT CHANNEL

SITE:	The site is located on the northern edge of the first basin in the Fort Point Channel, bounded by office and retail uses along the Channel.
OWNER:	Boston Edison
DEVELOPER:	Yet to be determined
STATUS:	The concept of a facility at this site is in the preliminary planning stage.
DESCRIPTION:	The 76,000 s.f. site is presently used for sub-station facilities and surface parking for Boston Edison employees.
LANDSIDE FACILITIES:	Parking currently used for Edison employees.
PUBLIC TRANSIT CONNECTIONS:	The site is a two block walk to the South Station Red Line subway station, commuter rail, and AMTRAK station.
EXISTING WATER TRANSPORTATION SERVICES:	None
DOCK CAPACITY:	The site could support 120 linear feet of dock space.
RECOMMENDED SERVICE:	With its close connections to South Station this site could be a good location for inner harbor shuttle service.

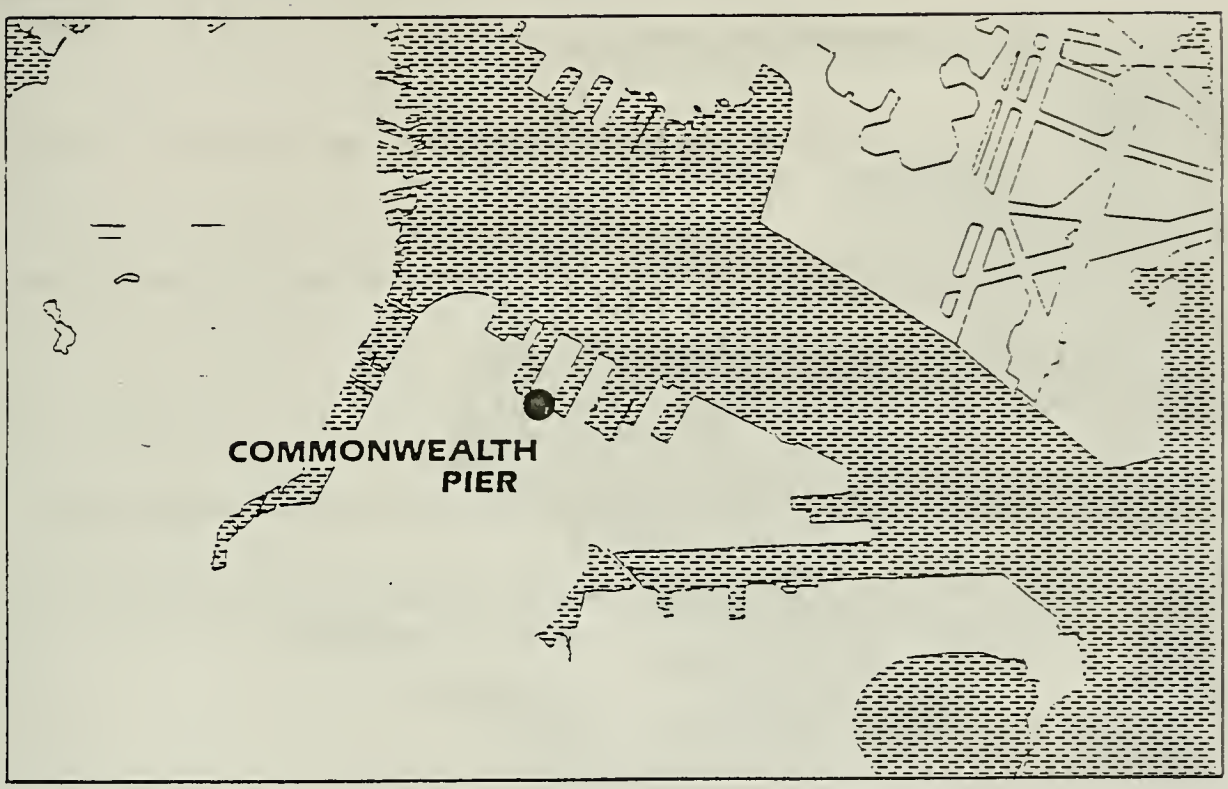
SOUTH STATION/FORT POINT CHANNEL



COMMONWEALTH PIER

SITE:	The Commonwealth Pier site is centrally located on the South Boston waterfront, bounded to the north by the Fan Pier, and to the south by the Fish Pier.
OWNER:	Fidelity, Monarch and Pier 5 Associates
DEVELOPER:	Fidelity, Monarch and Pier 5 Associates
STATUS:	Completed
DESCRIPTION:	An integral part of the Commonwealth Pier/World Trade Center is its water transportation facility. This $2.2 million component of the project includes indoor waiting space adjacent to the dock.
LANDSIDE FACILITIES:	The World Trade center includes restaurant and conference facilities.
PUBLIC TRANSIT CONNECTIONS:	None presently, but the site is a potential link in the proposed "people mover."
EXISTING WATER TRANSPORTATION SERVICES:	The facility is currently used as an excursion boat terminal and Airport Water Shuttle stop by Bay State Cruises.
DOCK CAPACITY:	The facility has 450 linear feet of dock space.
RECOMMENDED SERVICE:	The site is good for inner harbor shuttle service and water taxi service.

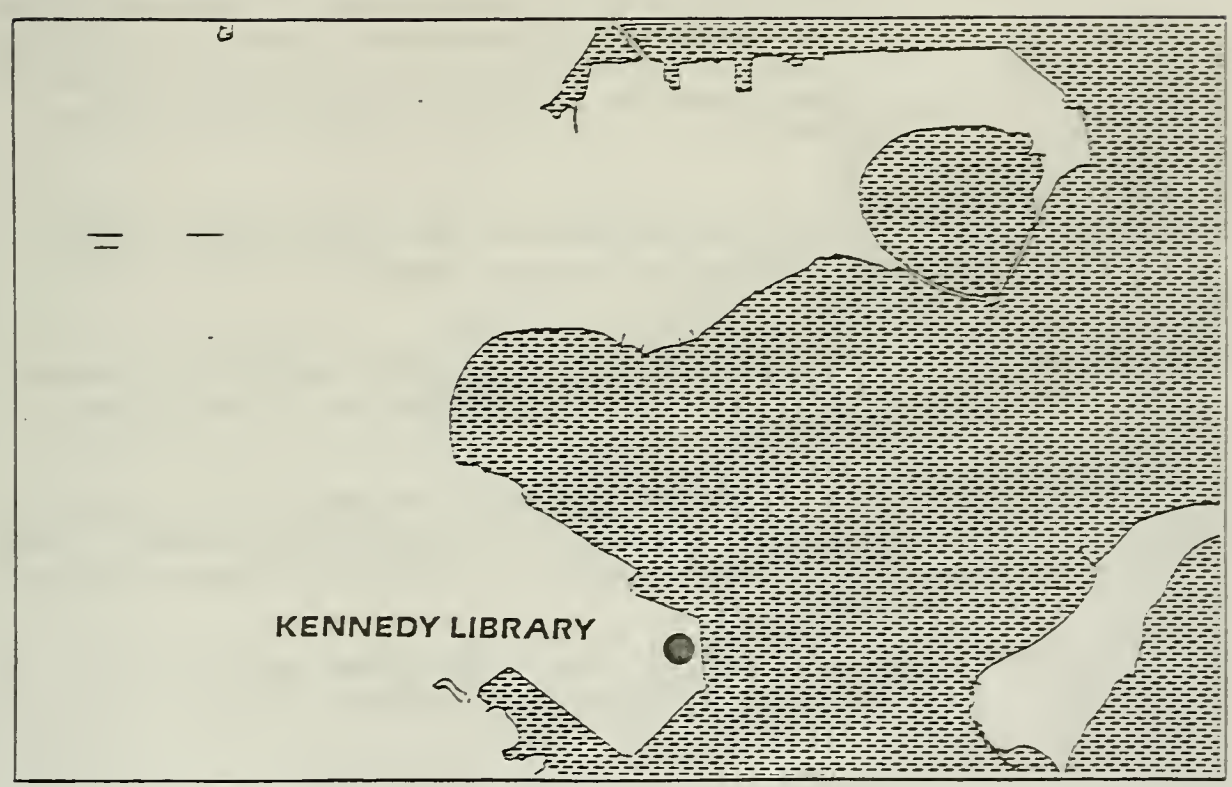
COMMONWEALTH PIER



KENNEDY LIBRARY

SITE:	The Kennedy Library site is located on the northeast corner of the Columbia Point peninsula in Dorchester, bounded by UMASS/Boston and the Harbor Point residential development.
OWNER:	The Kennedy Library
DEVELOPER:	The Kennedy Library
STATUS:	The addition of the dock is in the preliminary design stage, with completion scheduled for summer, 1988.
DESCRIPTION:	In a partnership with the National Archives, the Kennedy Museum will be constructing a water shuttle dock. This $1.2 million addition to the library facility will include a 2,000 s.f. covered waiting area, and public boat moorings.
LANDSIDE FACILITIES:	The site has large amounts of open space, with walkways and public parking.
PUBLIC TRANSIT CONNECTION	The site is a ten minute walk to the JFK/UMASS Red Line subway station.
EXISTING WATER TRANSPORTATION SERVICES:	None
DOCK CAPACITY:	The facility will have 180 linear feet of dock space.
RECOMMENDED SERVICE:	The site is good for excursion service and water taxi service.

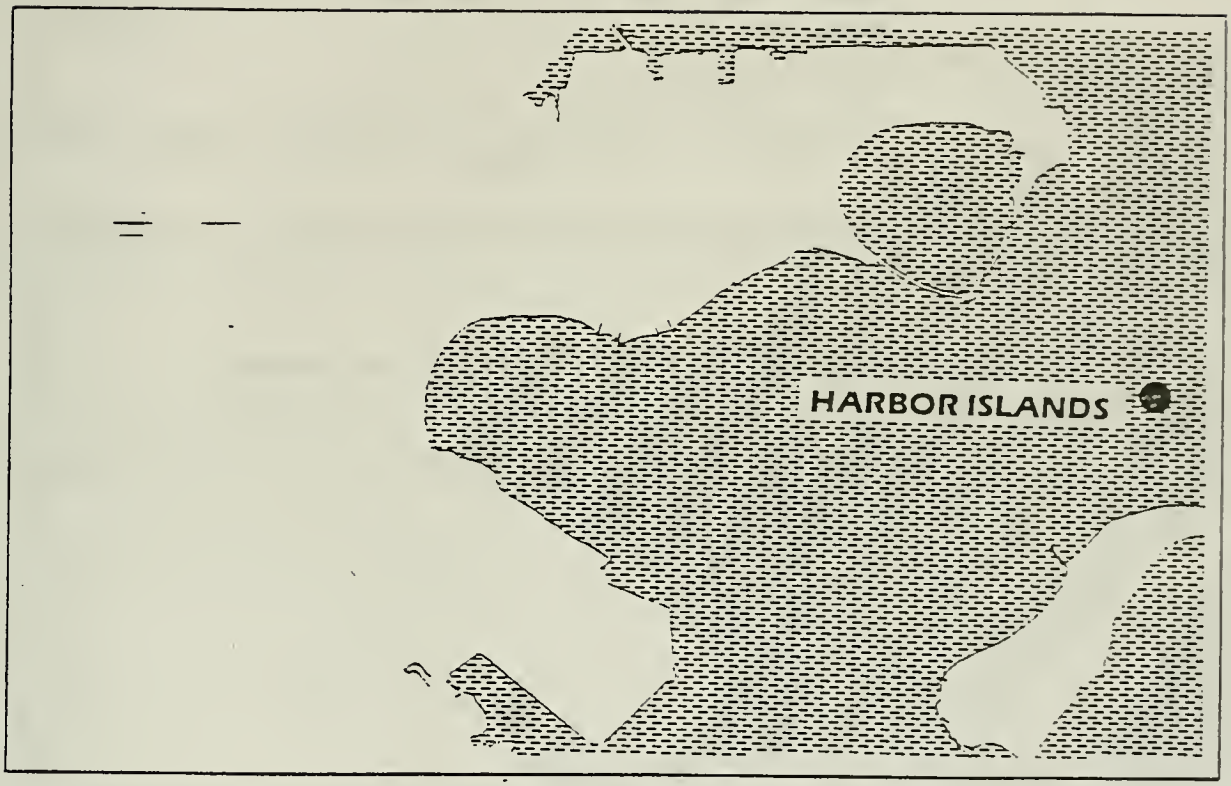
KENNEDY LIBRARY



HARBOR ISLANDS STATE PARK

SITE:	State Park composed of eight harbor islands (Thompson's, Peddocks, Lovells, Brewster, Grape, Gallops, and Bumpkin), in a group located two nautical miles southeast of Boston Harbor.
OWNER:	Department of Environmental Management, Metropolitan District Commission, and City of Boston
DEVELOPER:	Department of Environmental Management
STATUS:	Currently under construction, to be completed for the 1992 summer season. (The islands will be open during the reconstruction phase.)
DESCRIPTION:	An integral part of the plan to upgrade the Harbor Islands State Park is construction of new water transportation facilities. Investment is $35 million, for the building of various piers, floats, docks, and other support facilities for water transportation on the islands.
LANDSIDE FACILITIES:	Covered visitor centers with exhibit space, ticket booths, and public open spaces.
PUBLIC TRANSIT CONNECTIONS:	The Aquarium Blue Line subway station is located at Long Wharf, where shuttle service to the islands originates.
EXISTING WATER TRANSPORTATION SERVICES:	The islands are currently served by many private operators, bringing visitors out to the islands. Over 220,000 passengers were carried on these routes in 1986.
DOCK CAPACITY:	A total of 3,500 linear feet of dock space will be constructed on the eight different islands.
RECOMMENDED SERVICE:	Excellent for excursion and water taxi.

HARBOR ISLANDS

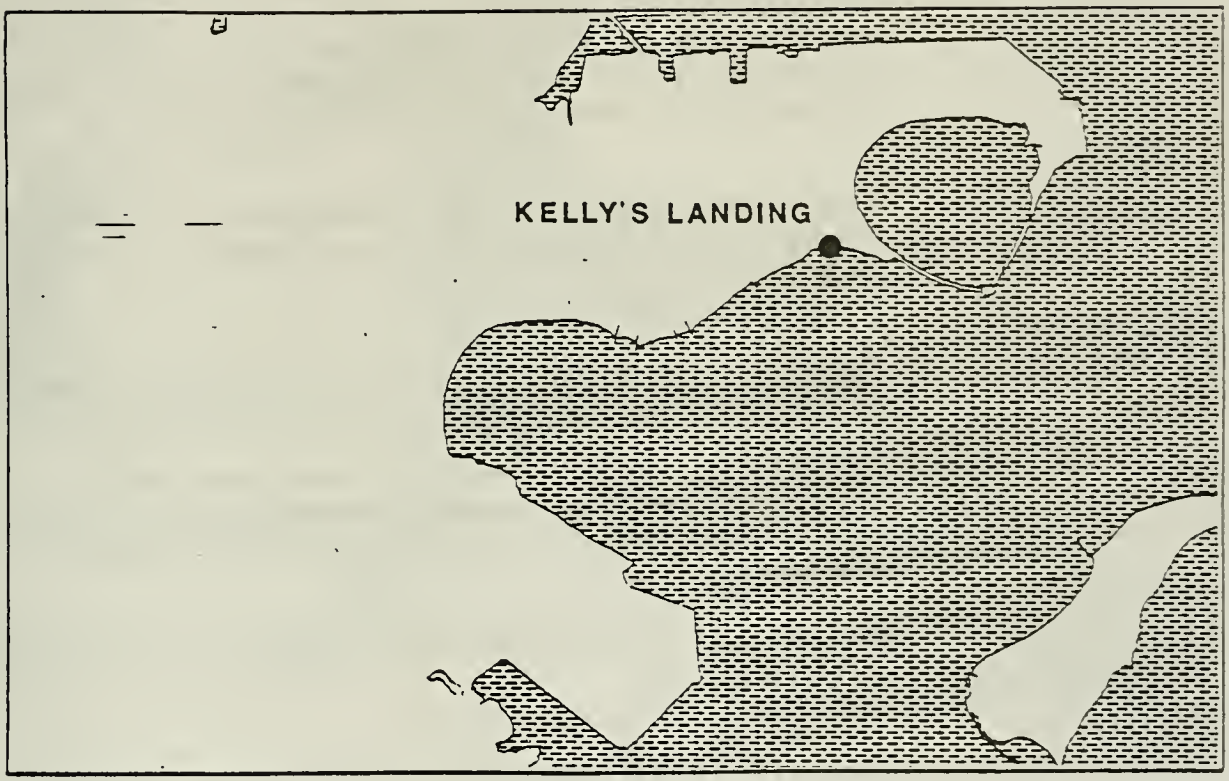


KELLY'S LANDING

SITE:	The Kelly's Landing site is located on the southern tip of Farragut Road, fronting on Dorchester Bay in South Boston.
OWNER:	Metropolitan District Commission
DEVELOPER:	Metropolitan District Commission
STATUS:	Completed
DESCRIPTION:	The site is currently used as a public landing for small boats and pleasure craft.
LANDSIDE FACILITIES:	The site has large amounts of open space at Castle Island, and parking in conjunction with an adjacent restaurant.
PUBLIC TRANSIT CONNECTIONS:	The Andrew Square Red Line station is approximately one half mile from the site.
EXISTING WATER TRANSPORTATION SERVICES:	The site is used for excursion service to Thompson's Island.
DOCK CAPACITY:	The site has 80 linear feet of dock space.
RECOMMENDED SERVICE:	The site is good for excursion service and water taxi service.

WTR/E/041/87/14

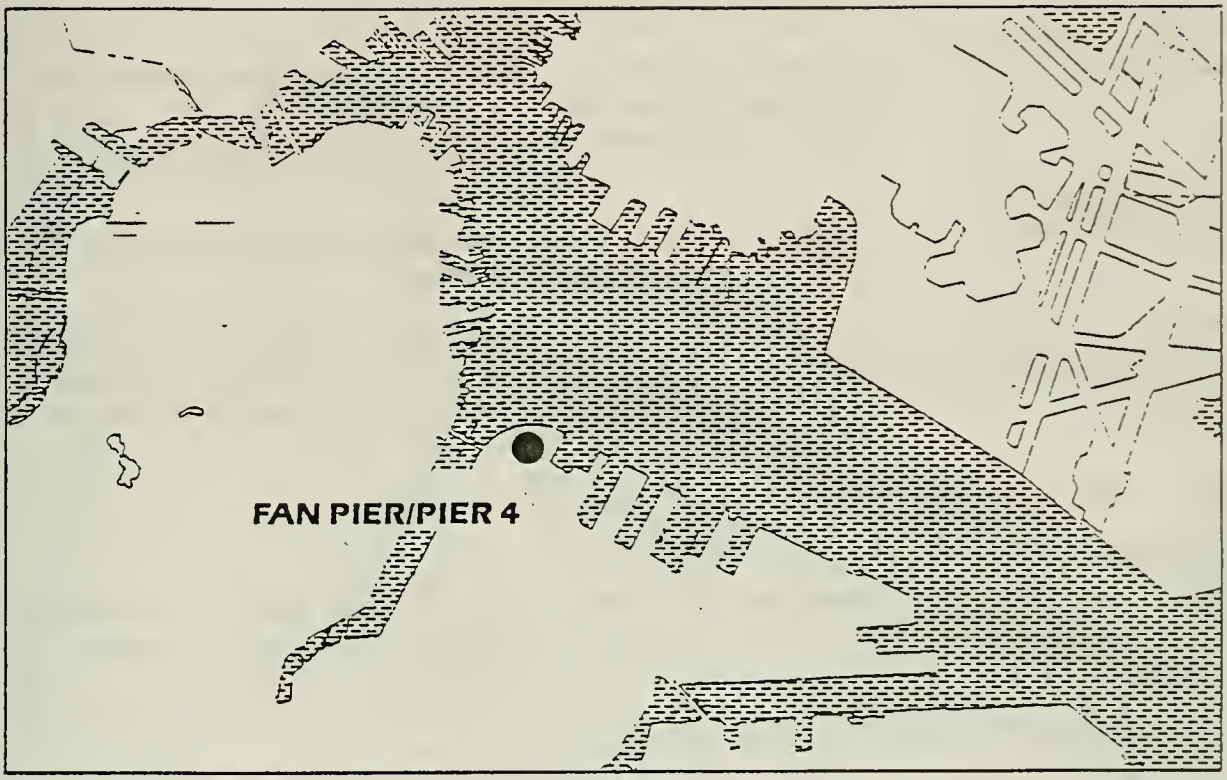
KELLY'S LANDING/SOUTH BOSTON



FAN PIER/PIER 4

SITE:	The Fan Pier site is located on the northwest corner of the South Boston waterfront, bounded by Northern Avenue to the east and the Fort Point Channel to the north.
OWNER:	Anthony Athanas
DEVELOPER:	HBC Associates/The Boston Mariner Co.
STATUS:	The project is in the final design review/public hearing stage, with completion scheduled for summer, 1995.
DESCRIPTION:	A major part of the Fan Pier development is a large water transit facility and marina. This $7 million component of the project will include a 3,000 s.f. waiting area and marine service facility, enclosed in the dockside building. There will also be smaller airport water shuttle and on-demand water taxi docks located within the project's marina.
LANDSIDE FACILITIES:	The project includes large, landscaped park areas, two hotels, underground parking, and other recreational facilities.
PUBLIC TRANSIT CONNECTIONS:	The facility is a ten minute walk to the South Station Red Line subway, commuter, and AMTRAK station.
EXISTING WATER TRANSPORTATION SERVICES	A.C. Cruise Lines currently operate from the northwest corner of the site. This operator provides excursion service to Gloucester and whale watch/ charter services.
DOCK CAPACITY:	The facility will have a total of 260 linear feet of dock space.
RECOMMENDED SERVICE:	The site will be excellent for inner harbor shuttle service and water taxi service.

FAN PIER

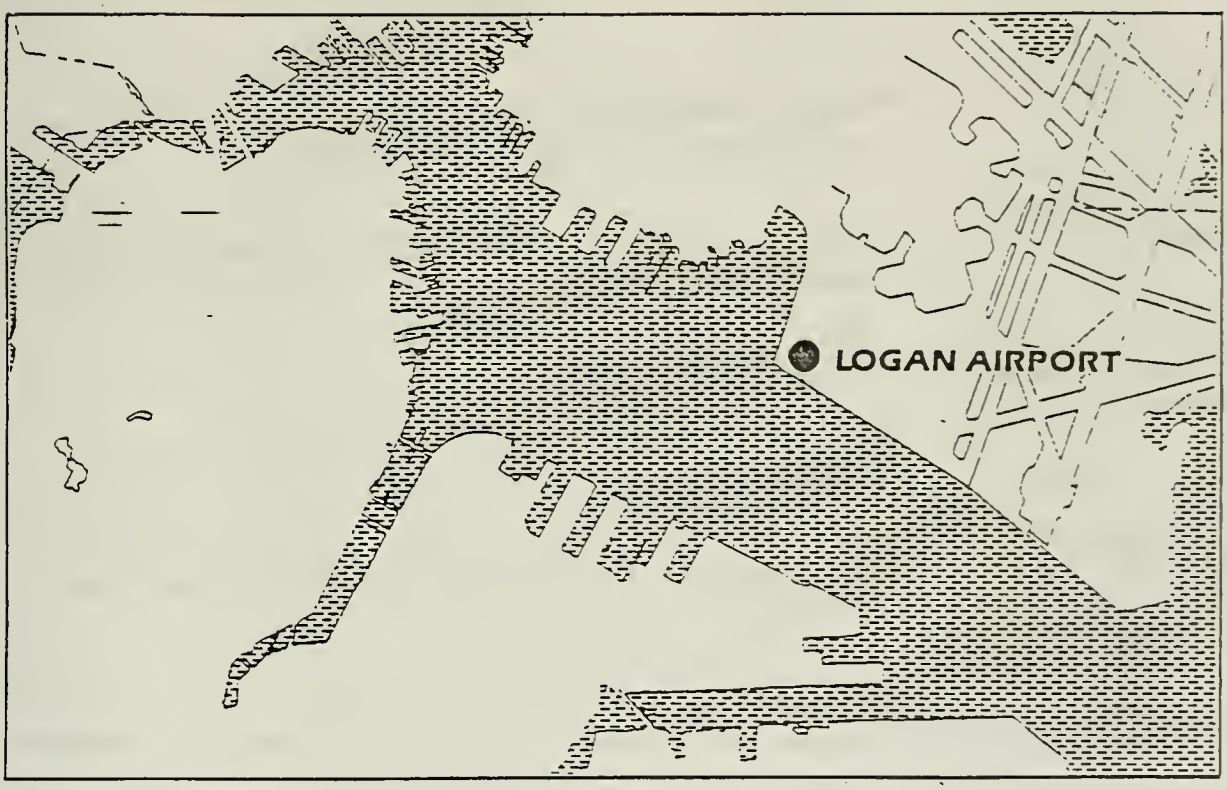


LOGAN AIRPORT

SITE:	The Airport water shuttle facility is located at the Northwest corner of East Boston's Logan Airport, known as "Bird Island Flats."
OWNER:	Massachusetts Port Authority
DEVELOPER:	Massachusetts Port Authority
STATUS:	Completed in June of 1985
DESCRIPTION:	The waterfront of Logan Airport includes the Massport Airport Water Shuttle facility. In operation since June of 1985, the 120 linear feet of dock space includes a 2,000 s.f. covered shelter for shuttle passengers. Investment in the facility is $2.5 million, which includes berthing space for the Massport Fire Boat.
LANDSIDE FACILITIES:	Include a 2,000 s.f. covered passenger shelter and a free bus shuttle service, transporting boat riders to their airline terminals.
PUBLIC TRANSIT CONNECTIONS:	The bus shuttle links the service to the Airport Blue Line subway and taxi stands.
EXISTING WATER TRANSPORTATION SERVICES:	The existing service operates to and from both Rowes Wharf and Commonwealth Pier. Service runs May-December, every half hour, with a current fare of $3 each way.
DOCK CAPACITY:	120 linear feet of dock space
RECOMMENDED SERVICE:	Excellent for inner harbor shuttle service connecting all Boston neighborhoods to the Airport by water.

WTR/E/041/87/12

LOGAN AIRPORT

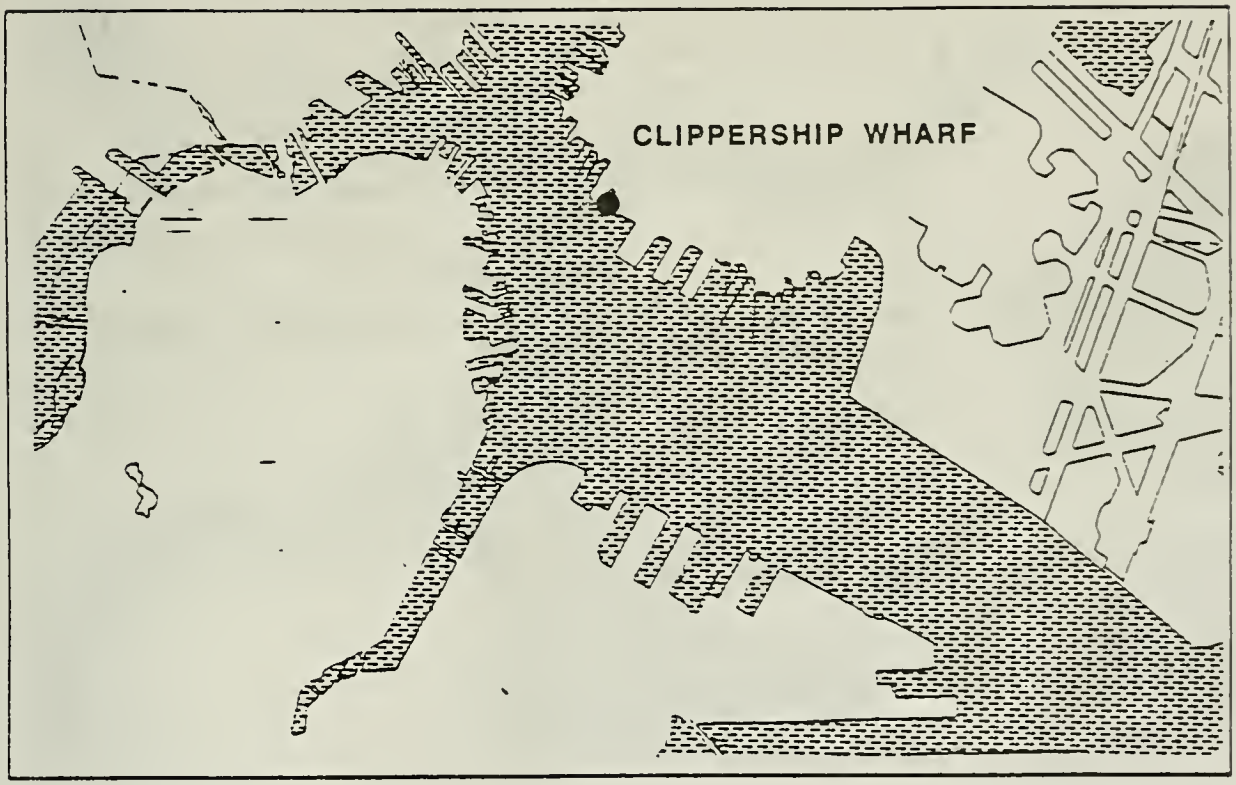


CLIPPERSHIP WHARF

SITE:	The Clippership Wharf site is centrally located on the East Boston waterfront, parallel to Lincoln Wharf on the Downtown waterfront. The site is bounded to the south by Lewis Mall and to the west by Clippership Lane.
OWNER:	Northeast Limited Partnership
DEVELOPER:	Clippership Wharf Related Properties
STATUS:	Currently in design review, with completion scheduled for September, 1988
DESCRIPTION:	The 400 unit Clippership Wharf residential development in East Boston will include water shuttle facilities. The $3.5 million facility has 150 linear feet of dock space, and a 2,000 s.f. covered and heated ticketing/waiting facility.
LANDSIDE FACILITIES:	Short term parking and a drop off/turn around area will be located close to the facility.
PUBLIC TRANSIT CONNECTIONS:	The site is a two block walk to the Maverick Blue Line subway station.
EXISTING WATER TRANSPORTATION SERVICES:	None
DOCK CAPACITY:	150 linear feet
RECOMMENDED SERVICE:	Excellent for inner harbor shuttle and water taxi service.

WTR/E/041/87/11

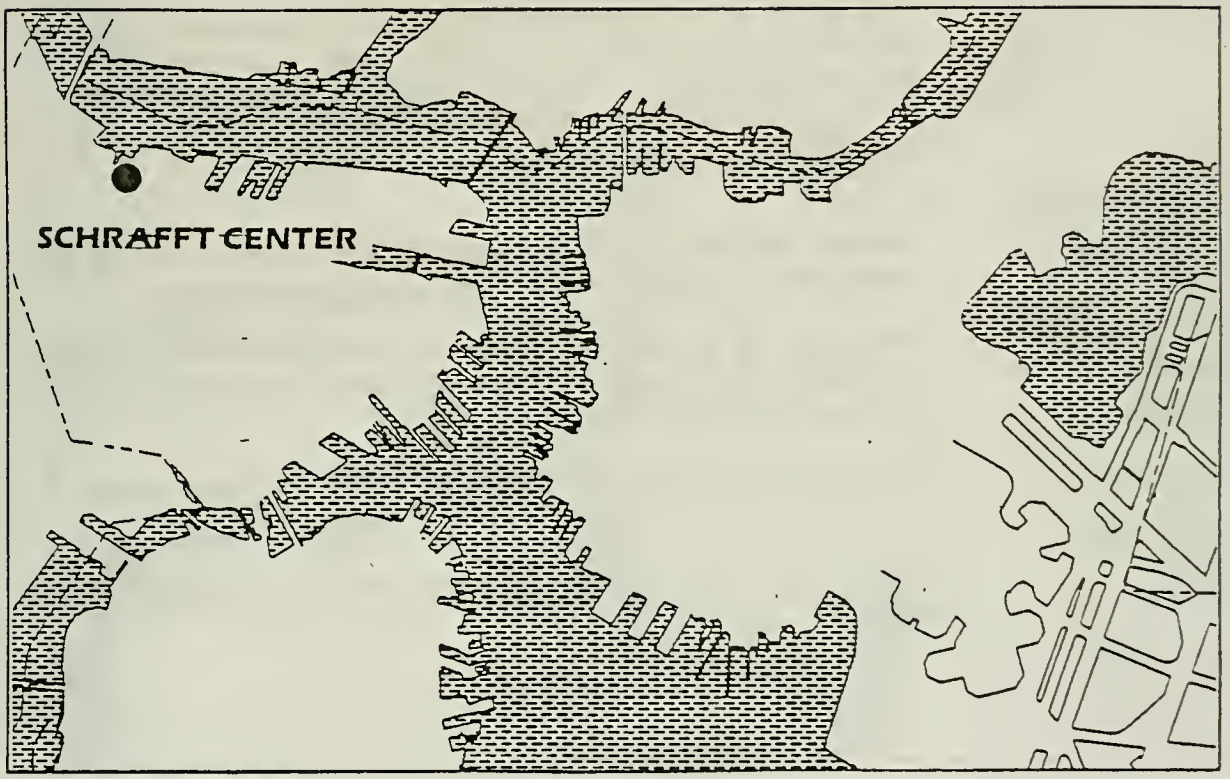
CLIPPERSHIP WHARF



THE SCHRAFFT CENTER

SITE:	The Schrafft Center is located in the northwest corner of Charlestown, on the Mystic River. It is one quarter mile south of the Malden bridge crossing into Everett.
OWNER:	The Flatley Company
DEVELOPER:	The Flatley Company
STATUS:	Although the building is completed, the water shuttle facility is still in the design development stage, with completion scheduled for late summer 1987.
DESCRIPTION:	As part of the rehabilitation of the Schrafft Candy Factory, the Flatley Company is constructing a water shuttle facility on site. This $3 million component of the project will contain a 500 s.f. gazebo waiting area, a public boat launch and landing, and facilities to house the Charlestown Youth Sailing Club.
LANDSIDE FACILITIES:	The site contains a 2 acre landscaped and shaded park with seating.
PUBLIC TRANSIT CONNECTIONS:	The site is a 300 yard walk to the Sullivan Square Orange Line subway station.
EXISTING WATER TRANSPORTATION SERVICES:	None
DOCK CAPACITY:	520 linear feet of dock space, including the boat launch/landing area.
RECOMMENDED SERVICE:	Good for water taxi.

SCHRAFFT CENTER



CHARLESTOWN NAVY YARD (PIER 4)

SITE:	The Charlestown Navy Yard Pier 4 site is located at the southwest corner of the Navy Yard, just west of the berthing area for the USS Constitution.
OWNER:	Boston Redevelopment Authority
DEVELOPER:	Immobiliare New England
STATUS:	The new facility is in final design development, with completion scheduled for September, 1987.
DESCRIPTION:	The water shuttle facility will be located within historic Dry Dock #2 at the southern tip of Pier 4. This $2 million facility will include a 2,000 s.f. covered, heated waiting area/ticketing booth to service shuttle passengers.
LANDSIDE FACILITIES:	The shuttle facility borders 16 acre Shipyard Park and will be connected to the 1400 car parking garage by a free van shuttle.
PUBLIC TRANSIT CONNECTIONS:	Nearby MBTA bus service provides connections to the Haymarket Green/Orange Line subway station.
EXISTING WATER TRANSPORTATION SERVICES:	The BRA has begun a peak hour shuttle service between Pier 4 and Long Wharf downtown. The service currently makes four round trips in the morning rush and 3 round trips in the evening rush.
DOCK CAPACITY:	The facility contains 300 linear feet of dock space.
RECOMMENDED SERVICE:	Excellent for inner harbor shuttle service and water taxi service.

WTR/E/041/87/8

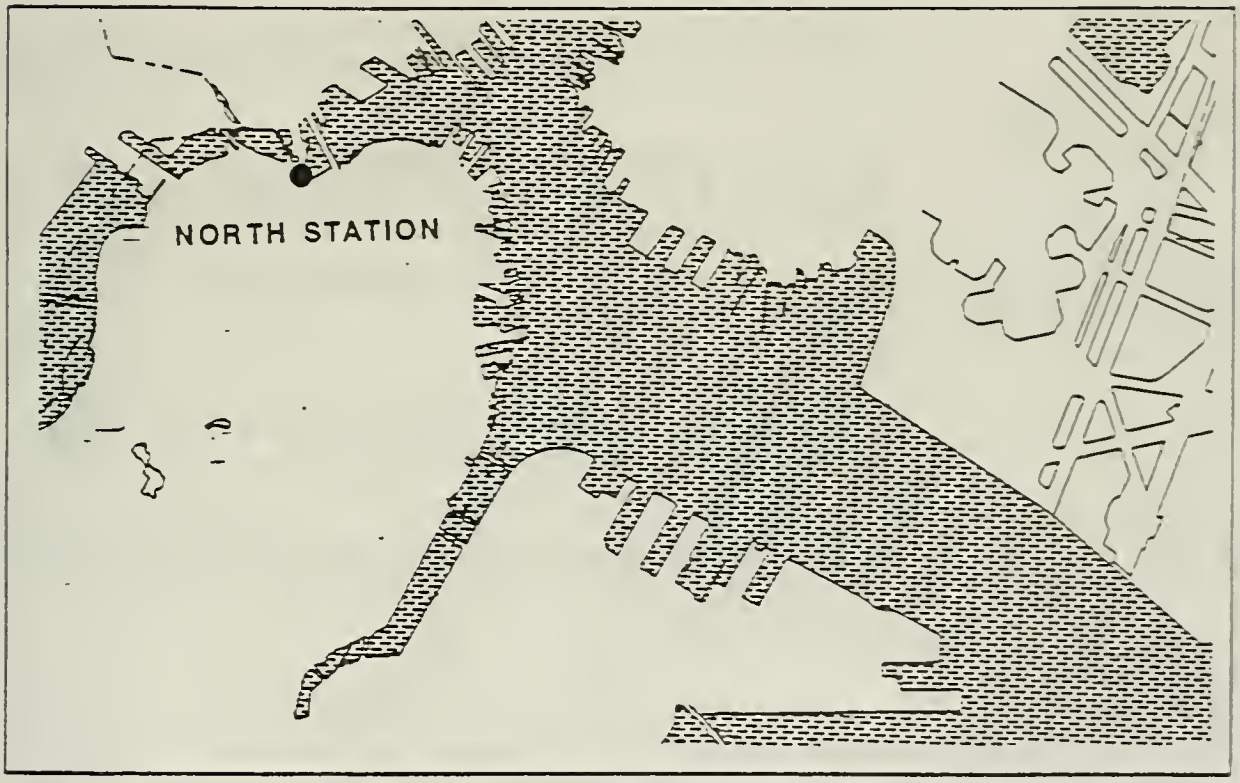
CHARLESTOWN NAVY YARD (PIER 4)

NORTH STATION/BEVERLY STREET

SITE:	The North Station/Beverly Street site is located at the northern tip of Beverly Street, abutting the Boston Garden, just east of the Charles River Dam.
OWNER:	Metropolitan District Commission
DEVELOPER:	Yet to be determined
STATUS:	The concept for a facility at this location is in the preliminary planning stage.
DESCRIPTION:	The site is an open water-edge area in the basin between the Charlestown Bridge and the Charles River Dam, capable of supporting a water shuttle dock.
LANDSIDE FACILITIES:	The site neighbors several public parking lots, and is bounded by a small public park with seating areas.
PUBLIC TRANSIT CONNECTIONS:	The site is adjacent to the North Station Green Line subway station, and the North Station Commuter Rail.
EXISTING WATER TRANSPORTATION SERVICES:	None
DOCK CAPACITY:	The area should be able to support a 120 linear feet dock.
RECOMMENDED SERVICE:	Proximity to rapid transit could make this an attractive site for inner harbor shuttle service when developed.

WTR/E/041/87/7

NORTH STATION/BEVERLY STREET

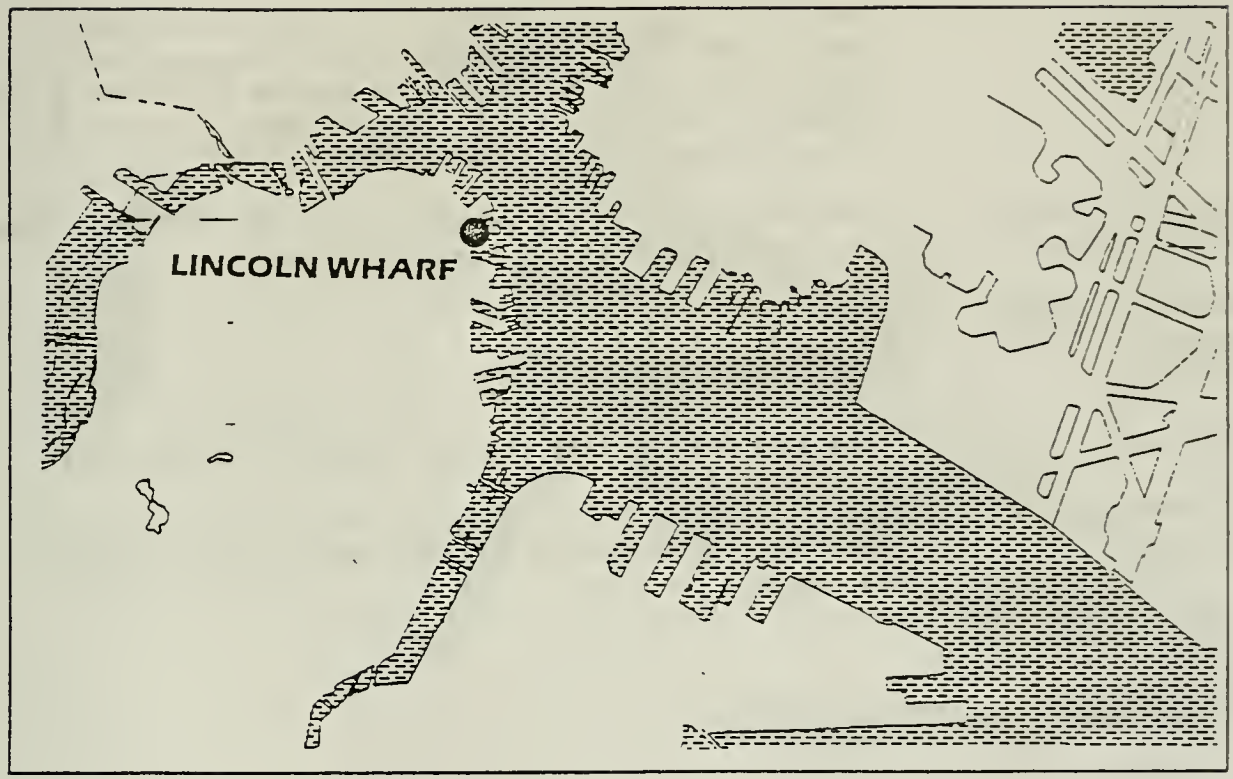


LINCOLN WHARF

SITE:	Lincoln Wharf
OWNER:	Lincoln Wharf Associates
DEVELOPER:	Lincoln Wharf Associates
STATUS:	The project is in the final design stage, with completion scheduled for June, 1989.
DESCRIPTION:	Part of the Lincoln Wharf mixed-use development includes water shuttle facilities. This $6.5 million component of the project includes an enclosed waiting area. It will also serve as the headquarters for the Boston Fire Department Marine Unit.
LANDSIDE FACILITIES:	The site will include a landscaped park area with seating, and a 150 space underground parking garage.
PUBLIC TRANSIT CONNECTIONS:	The site is approximately a ten block walk to both the Aquarium Blue Line station and the North Station Green Line subway station.
EXISTING WATER TRANSPORTATION SERVICES:	None
DOCK CAPACITY:	The facility will have 550 linear feet of dock space, including the fire department facilities.
RECOMMENDED SERVICE:	Good for inner harbor shuttle service and water taxi service.

WTR/E/041/87/6

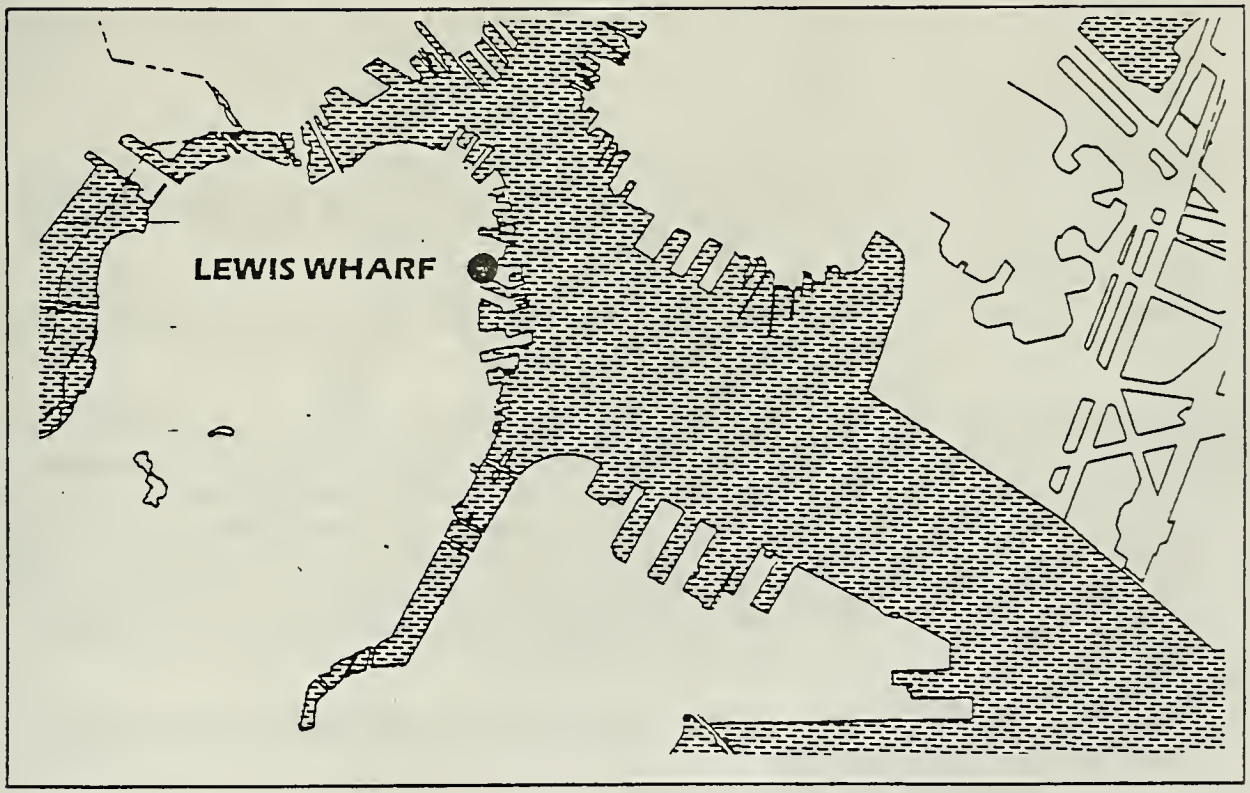
LINCOLN WHARF



LEWIS WHARF

SITE:	The Lewis Wharf site is located in the center of the North End waterfront, at the eastern tip of Fleet Street.
OWNER:	Lewis Wharf Real Property Trust
DEVELOPER:	Lewis Wharf Limited Partnership
STATUS:	The project is in the design development stage, with completion scheduled for summer of 1991.
DESCRIPTION:	This $2.7 million shuttle facility will include an 800 s.f. covered, enclosed waiting area, with a public boat landing/launch area, and a large marina.
LANDSIDE FACILITIES:	The site includes a Marine Inn, large marina with support facilities, and a 600 space underground parking garage. The site will also be the home of the lightship "Boston" and the tug "Yankton" which will serve as floating ship museums.
PUBLIC TRANSIT CONNECTIONS:	The facility is a four block walk to the Aquarium Blue Line subway station.
EXISTING WATER TRANSPORTATION SERVICES:	None
DOCK CAPACITY:	The site will include 150 linear feet of dock space.
RECOMMENDED SERVICE:	Good for inner harbor shuttle service and water taxi service.

LEWIS WHARF



LONG WHARF

SITE:	The Long Wharf site is centrally located on the Boston waterfront, bounded by the New England Aquarium to the south, and Waterfront Park to the north.
OWNER:	Boston Redevelopment Authority
DEVELOPER:	Boston Redevelopment Authority and the Department of Environmental Management.
STATUS:	The project is divided into three phases, with final construction scheduled for completion in the summer of 1990.
DESCRIPTION:	The reconstruction of Long Wharf will totally upgrade the water transit facilities, which will serve as the major excursion/shuttle terminal in the harbor. The $16 million project will include a 3,000 s.f. visitors center, heated and enclosed, with ticketing, rest rooms, and public information facilities.
LANDSIDE FACILITIES:	The site is bounded by the Marriot hotel, Waterfront Park, and has available parking nearby.
PUBLIC TRANSIT CONNECTIONS:	The site is 50 yards from the Aquarium Blue Line subway station.
EXISTING WATER TRANSPORTATION SERVICES:	The site currently serves as the major excursion/ shuttle terminal in the harbor, with the headquarters of Boston Harbor Cruises and Bay State Cruise Lines. The site serves as the origin/destination site for the Harbor Islands service and Charlestown Navy Yard Pier 4 service, as well as other excursion and charter services. The site served approximately 750,000 passengers in 1986.
DOCK CAPACITY:	The facility will include 3,240 linear feet of dock space.
RECOMMENDED SERVICE:	The site is excellent for commuter, inner harbor shuttle service, and water taxi service.

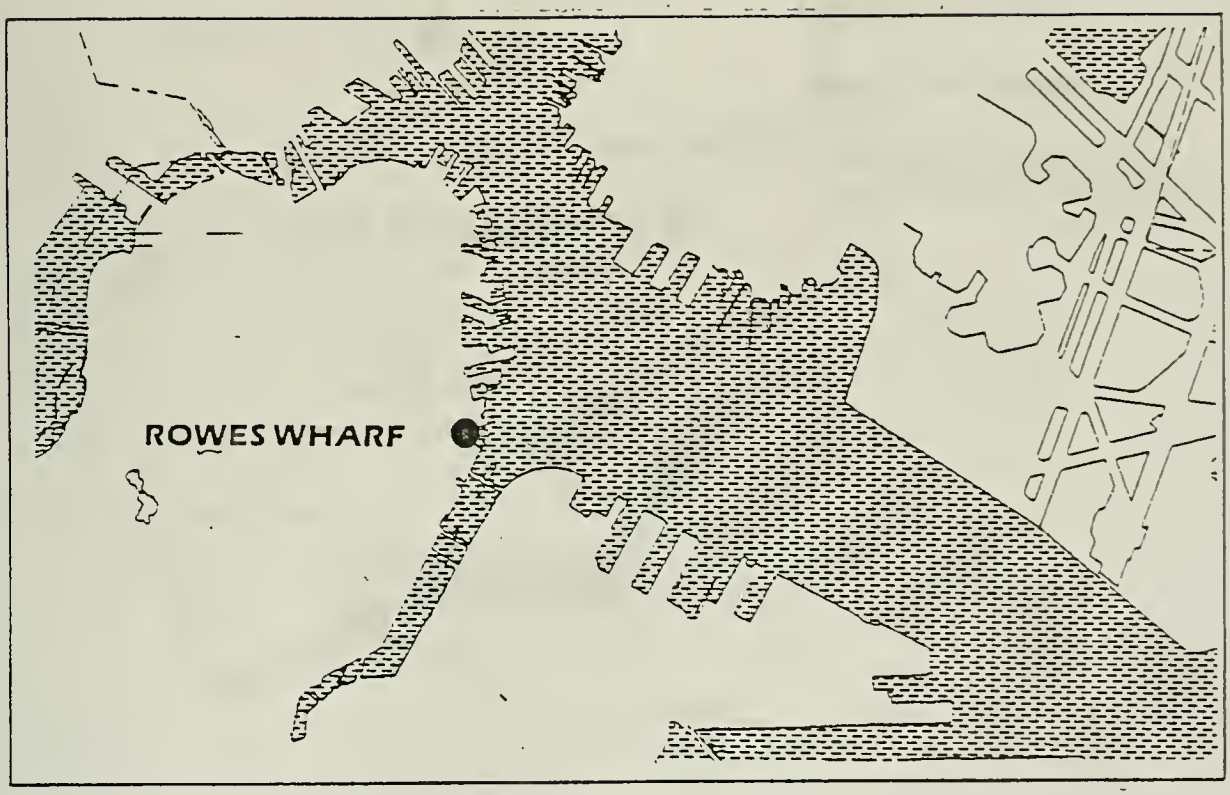
WTR/E/041/87/4

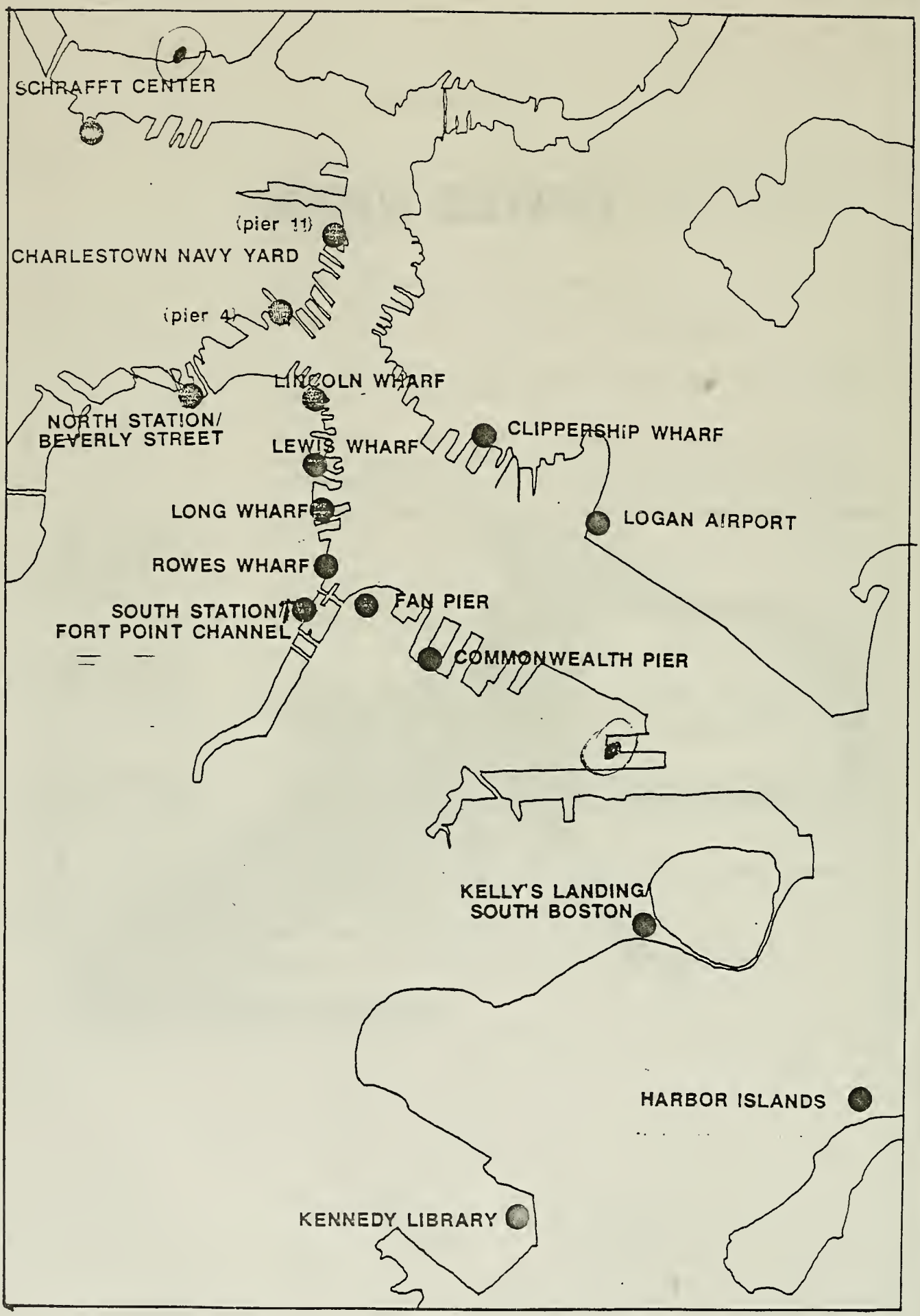
LONG WHARF

ROWES WHARF

SITE:	The Rowes Wharf site is located on Atlantic Avenue, at the southeast edge of the inner harbor, 100 yards north of the Northern Avenue Bridge and the Fort Point Channel.
OWNER:	Boston Redevelopment Authority
DEVELOPER:	The Beacon Companies and The Equitable
STATUS:	The site is currently under construction, with completion set for August, 1987.
DESCRIPTION:	Extensive portions of the Rowes Wharf project will be water transportation facilities, serving as the focal commuter boat terminal in Boston Harbor. The $18 million project includes an elevated, two story, domed waiting area/observation deck.
LANDSIDE FACILITIES:	The project includes a hotel, underground parking garage, and a large marina.
PUBLIC TRANSIT CONNECTIONS:	The site is a four block walk to both the Aquarium Blue Line subway station and the South Station Red Line subway, commuter rail, and AMTRAK station.
EXISTING WATER TRANSPORTATION SERVICES:	The Hingham-Boston commuter service and Logan Airport shuttle service are currently operating from a temporary facility on site.
DOCK CAPACITY:	The facility will have 650 linear feet of dock space.
RECOMMENDED SERVICE:	The site is excellent for commuter service, inner harbor shuttle service, and water taxi service.

ROWES WHARF




SCHRAFFT CENTER
(pier 11)
CHARLESTOWN NAVY YARD
(pier 4)
LINCOLN WHARF
NORTH STATION/
BEVERLY STREET
CLIPPERSHIP WHARF
LEWIS WHARF
LONG WHARF
LOGAN AIRPORT
ROWES WHARF
FAN PIER
SOUTH STATION/
FORT POINT CHANNEL
COMMONWEALTH PIER
KELLY'S LANDING/
SOUTH BOSTON
HARBOR ISLANDS
KENNEDY LIBRARY

CHAPTER 5

Site Analyses: Existing Conditions and Opportunities

- To provide a mechanism for fiscal stability for the development and maintenance of water transportation. To provide a fee structure that will enable operators to provide service at affordable costs.

THE POLICY FRAMEWORK: GOALS AND OBJECTIVES

- To facilitate the development of a well coordinated new water transportation system in the Inner Harbor to provide year-round commuter and water shuttle services, water taxis and excursions which serve the general public.

- To improve Intra-Harbor movement and reduce congestion Downtown, particularly in areas potentially impacted by the Central Artery and Third Harbor tunnel construction.

- To encourage and develop intermodal links between water and landside transportation systems.

- To provide a cost-effective water transportation system that safeguards the public interest and offers private sector opportunities, including fares, which are comparable to and competitive with land public transportation.

- To assure all terminal facilities and vessels are accessible to elderly and handicapped persons. This includes boarding ramps, seating areas, ticketing/waiting areas, pedestrian pathways.

- To ensure that landside facilities are suitable for year-round use.

- To identify appropriate sites for waterborne transit services and to do so in a manner consistent with the physical constraints of the harbor and the land use characteristics of the waterfront.

- To support an expanded private sector role in the provision of water transportation service and facilities.

- To ensure that the State, through its Chapter 91 licensing process, the City and the Boston Redevelopment Authority provide for, and take advantage of water transportation in newly proposed projects.

- To ensure a consistent quality of safety, convenience and accessibility on the Boston waterfront by establishing uniform design guidelines that will set building and design standards for docks, ramps, gangways and landside facilities.

- To provide for the transport of bicycles on waterfront to complement landside biking activities.

- To provide good linkage between water transportation sites and public access, i.e., Harborwalk and Harbor parks, wherever possible.

- To develop a rational, coordinated licensing and permit procedure that includes routes, time schedules, docking facilities, insurance, marketing, and that ensures the public's safety.

- To ensure the availability of a well-managed, reasonably-priced water transportation system.

CHAPTER 4

The Policy Framework: Goals and Objectives

nels; natural protection; zones of accretion and erosion; ice movement; availability of docks and bulkheads. Following, are a few examples of the implications of such factors:

- Safety Factors: Harborcraft have differing capabilities of handling wave exposures when secured. There is a danger when large tankers and small vessels are mixed in travel lanes, because of their very different maneuverabilities. Approach zones for small craft marinas and shipping and commercial piers and docks should be established as far apart as possible.

- Tides: Tidal ranges in the Harbor are from 8 to 14 feet with storm tides up to 5 feet greater every 5 to 10 years. Mean sea level is rising. Siltation is reduced by Charles and Mystic River dams, but main channel dredging is still required every 5 to 10 years.

- Waves: Harbor wave action is a function of depth and fetch. Using available data, the design wave is used to establish loads on vessels and structures. The overturning force of waves is roughly equivalent to the cube of the height; e.g., a 3 foot wave was 3 times the overturning force of a one foot wave.

Heights and velocities of waves can be measured by refraction, encountering a promonotory, and can be decreased by diffraction, encountering a concavity or bay. Hard vertical surfaces reflect waves, while rough sloping surfaces absorb wave energy.

Using data on waves and depths, best, worst and marginal conditions for berthing various vessels can be determined. Low wave energy areas with adequate water depth should be reserved for smaller to medium vessels, while deep water locations in South Boston, East Boston and Charlestown should be reserved for larger commercial and military craft.

When these factors are carefully related to the new and growing forms of maritime commerce and private recreational boating needs, the value of--and limitations to--the available navigable water area will be readily apparent. It will also become clear that only certain limited locations in the harbor are appropriate for particular navigable functions, such as basins for pleasure yachts and boats or a deep-water port, and that these zones must be preserved for the appropriate marine use.

- Lack of accountability of boat operators: There is a need for improvement in the enforcement of safety regulations and management of boat traffic in the Harbor.

- Lack of linkage of landside transportation: Existing sites are remote and inaccessible from public transportation and vehicular access. There is a need for better planning to provide for the land and waterside transportation linkages.

- Lack of centralized and complete information: There is a need for improved distribution and visibility of boat information/schedules.

- Lack of public orientation: There is a need for improved signage which is simple, easily understandable by all, and uniform.

- Lack of financial planning: There is a need to identify funding and leasing arrangements that best promote development and management of water transportation and to determine what type of private/public partnership best promotes and sustains water transportation.

- Lack of sufficient: There is a need for constructing and improving landside facilities for year-round usage.

- Lack of design standards: There is a need to establish and provide design standards/guidelines for the development of most appropriate vessel and landside facilities.

Physiography of Boston Harbor

An important part of the Harborpark program is to create a balanced waterfront and to preserve the unique harbor resource for future generations. Hence, planning for water transportation must take into account new types and levels of activity and the resulting impacts these activities might have on the harbor. It must be based on an analysis of the physical factors inherent in the complex and dynamic water resource. Analysis of such factors would determine how the vessels can best be accommodated within a Harbor used for a variety of purposes.

Planning for water transportation should scrutinize Harbor resources in terms of a broad range of factors including: exposure to wind and wave; surge from passing vessels; navigable depth; requirements for access chan-

Boston Harbor, the focus has been on responding to crisis situations, solving specific transportation needs and conducting studies. As a result, activities and discussions have been carried out in the absence of a comprehensive framework, in an uncoordinated manner lacking a strong and identifiable leadership.

It is evident, however, that water transportation in Boston Harbor today has reached a critical threshold, urgently requiring a comprehensive and coordinated effort in order to maximize the potential benefits which could be reaped from this transportation mode. The comprehensive approach recommended by this report requires that several problem areas be addressed, including the following:

- Lack of sufficient services: There is a need to expand year-round commuter and excursion services, and establish an Inner Harbor shuttle and water-taxi services.

- Lack of a policy framework: There is no one established policy framework which consolidates the goals and objectives of entities involved in the planning and development of water transportation.

- Lack of an overall plan for the development of a system: There is a need to formulate a "Master Plan" which identifies the appropriate sites and routes for services and docking facilities, provides for intermodal likes and presents a regulatory framework for planning and development.

- Conflicting jurisdictions: There is currently no agency with primary jurisdiction or authority to regulate boating enterprises in Boston Harbor. As a result, licensing activities are overlapping and duplicative, and there is a lack of coordination and uniform policies among agencies.

- Lack of guidance to developers: Since there is no single identifiable agency with the mandate of coordinating water transportation activities, developers lack clear direction concerning the inclusion of water transportation components in their projects.

- No clear guidelines for administering Chapter 91 regulations: Although Chapter 91 regulations support and encourage the development of water transportation facilities, the mechanism for administering the regulations is unclear, particularly as it relates to water transportation.

- Lack of uniform standards/guidelines: There is no established set of standards/guidelines for the design and location of landside water transportation facilities, for terminals or for vessels.

The Harborpark Advisory Committee, a 15-member advisory board appointed by Mayor Flynn at the initiation of the harbor planning program, has played an important role in reviewing proposed projects and providing specific recommendations on the water transportation components. Among the representatives from Harbor interests groups is a representative of boat operators.

The City of Boston's Transportation Department has formulated a policy framework which supports the establishment of a Boston Harbor water transportation system. The Department also has begun to work on landside connections to the existing sites and facilities.

In addition, much has been happening at the State level. The Executive Office of Transportation and Construction (EOTC) has formulated policies and recommendations which reinforce the need to establish a comprehensive system. The Department of Environment Quality Engineering (DEQE) has recently promulgated Chapter 91 regulations which promote water transportation as a water dependent use in the licensing of new projects located on Commonwealth tidelands. The proposed Chapter 91 MGL 310 CMR 9.00 Waterway Regulations, support the development of landside facilities and terminals and encourage developers to incorporate these elements into their plans.

The State's Water Transportation Task Force, consisting of representatives from various City and State agencies as well as private boat operators, continues to provide a useful forum in which to pursue discussions and share information.

Problems Which Need To Be Addressed

Although the last few years have witnessed a substantial private and public interest and increase in activity related to water transportation in

Paralleling the growing demand for water transportation services in Boston Harbor is the growing interest and investment by private developers, proposing projects on Boston's waterfront, by private boat operators, and by City and State agencies. Presently $100 million is being invested in water transportation facilities and infrastructure by private developers all over Boston Harbor at Rowes Wharf, Long Wharf, Logan Airport, Charlestown Navy Yard, Fan Pier, Lincoln Wharf, and other waterfront sites.

Water transportation operators are buying new boats and expanding their staffs. To better coordinate their activities and plans for future needs, they have formed a new organization - Massachusetts Association of Passenger Vessel Owners (MAPVO). MAPVO is now beginning to determine and advocate for their collective needs.

Water transportation also has been a major component of the City's Harborpark planning program since its inception in October 1984. As a result of this Harborpark concept, waterfront developers are required to include water transportation docks and facilities within their projects. These unique requirements are helping to provide infrastructure for the emerging water transportation system.

The progress on this Harborpark initiative has been substantial. Since 1984, over $100 million of investment has been committed at various sites in Boston Harbor creating more than two miles of dock space and support facilities. This is a good example of private development yielding public benefits under the Harborpark program. In addition, the Harbor Planning and Development Department of the Boston Redevelopment Authority (BRA) has researched issues related to the subject of water transportation. This report is one product of these studies, providing a greater understanding of the subject and a starting point for coordinating a concerted effort by the private and public sectors in the establishment of a comprehensive network.

From the end of 1984 to the present, both ridership and quality of service have steadily increased on the Hingham to Boston shuttle, with only minor dropoffs in ridership due to extremely rough winter weather. The EOTC and MBTA have continued their subsidy and capital improvement efforts, with annual operations subsidy now totalling over $1 million, and the investment in docking, parking, lighting, waiting areas and other improvements at the Hingham end totalling millions more. This dedicated effort by the State and private operators is manifesting itself in a steady, constantly growing ridership, that now averages over 1,500 passengers per day riding the total of 15 round trips that are provided between Hingham and Boston.

In July of 1985, Massport also began the airport water shuttle, running between Logan Airport, Rowes Wharf and Commonwealth Pier. The service is subsidized by massport and is contracted out to two private operators. The service began slowly and is still seasonal (May-December). However improvements to the Logan Airport dock, the provisions of bus transportation linking the water shuttle to airline terminals, and increased publicity have generated a 135% increase in ridership on this route since it began operating in 1985.

Today, the demand for commuter, shuttle and excursion services is growing at record rates. As mentioned earlier, commuter boat service attracts 1,500 daily passengers from the South Shore. Ridership on the Hingham-Boston service increased 600% between 1979-1985. The Boston Logan Airport Shuttle has made the airport highly accessible to downtown Boston. The short run (10 minutes) and comfortable boats have contributed to a ridership increase of 100% since operation began in 1984. The Harbor Islands State Park has produced a new demand segment for water transportation. In the one year from 1985-1986 ridership on this excursion service increased by 300%.

Hingham, the DPW provided parking space on the dock, and the Legislature passed a $50,000 subsidy and a $1 million bond issue, for the run in the FY78 budget.

With this money, the Executive Office of Environmental Affairs (EOTC) purchased a high-speed hovermarine craft and began running the Hingham-Boston route again. For the next three years the service operated, albeit inconsistently. The boat ran well in good weather, but in the winter and in inclement weather the journey was slow and tenuous, often having to cancel and leave people stranded on the docks. The boat also suffered many mechanical problems, and was often under repair, causing service unreliability.

Despite these setbacks, service continued into the 1980s. Mass Bay Lines ran one round-trip daily, with a standard monohul boat averaging 15 knots, that drew moderate, but dedicated ridership at approximately 75 people/day. Mass Bay Lines continued to provide this single round trip water shuttle service to Hingham riders, until April of 1983, with ridership in this period slowly rising to an average of 90 passengers per day. At this point in April of 1983, sensing a desire for water commuters for a much faster service to Boston, Mass Bay commuter service began running several round trips on high speed boats, cutting 15 minutes off each leg of the trip. Response to this type of service was realized immediately with ridership growing to over 475 passengers per day through early 1984.

In March of 1984, with reconstruction of the South East Expressway imminent, the EOTC began subsidizing service and made major capital improvements (including parking and new docks as Hingham), in order to mitigate some of the impacts of this enormous construction project. Response to the subsidy and capital improvements was tremendous, with ridership on the Hingham - Boston run climbing to a high of 1,300 passengers per day in the summer of 1984.

As the city of Boston entered the twentieth century, the network of the old steam passenger ferries in Boston Harbor soon faded to just a memory. As the automobile rose in popularity and affordability, demand for waterborne transportation quickly diminished. Finally, on January 1, 1953, soon after the completion of the Mystic River Bridge, Mayor John B. Hynes signed legislation legally discontinuing all ferry service in Boston. The construction of the Sumner and Callahan Tunnels further eliminated any possible need for a cross-harbor water transportation network and Ferry service in Boston Harbor, operational for over 300 years, became just a nostalgic memory.

Re-Emergence of Water Transportation in Boston Harbor

Water transportation in Boston Harbor remained dormant for almost two decades, until South Shore residents, faced with a need to find an alternative to building a new Route 228 Highway, commissioned a water transportation feasibility survey for a commuter service between Hingham and Boston in 1973. Response to this study, conducted by the South Shore Chamber of Commerce, was extremely positive and supportive. Based on this interest, route tests and cost/benefit studies were conducted, using a high speed hovermarine craft. During the next two years, several private boat operators provided commuter service with one round-trip journey per day on the Hingham-Boston route. Unfortunately, a 15 knot proved too much for these operators to overcome. Service was curtailed because of insufficient ridership, lack of support services, and slow average trip speed.

In 1977, 150 commuters committed themselves to use the commuter shuttle, and with help from massport, the Department of Public Works (DPW), and the State Legislature, service began again. Massport rented dock space in

THE CONTEXT

History

The history of water transportation in Boston Harbor runs virtually as long as the city itself. Colonial settlers in Boston immediately realized that the penisula geogrpahy of Boston Harbor lends itself beautifully to a system of water transit. The neighborhoods of Charlestown, Noodle's Island (East Boston), and Winnissimet (Chelsea), had great potential for quick and easy connection by water to mainland Boston. Boston entrepreneurs soon capitalized on this opportunity, and by 1631, the "Great Ferry" was in operation between Boston and Charlestown. Some years later, in 1638, the General Court of Massachusetts established a ferry to serve connections with Chelsea, East Boston, and large ships docked in the Harbor. In 1640, the famous "Penny Ferry" began carrying passengers across the Mystic River, near the site of the present Malden Bridge.

With the advent of the steam engine and the lack of privately owned automobiles, except by the very rich, the network of water transportation continued to expand into the 1800s. Water ferry service in Boston Harbor flourished and peaked in the 1880s, when ferries met the recreational, commuting, and commercial needs of the area, with routes from downtown Boston to East Boston, Hull, Nantasket, Hingham, North Weymouth, Nahant, Plymouth, Gloucester, Provincetown, and the Harbor Islands. Many still remember the days when huge, bright red 400 and 500 passenger ferries chugged across the Harbor, from the Boston, Revere Beach and Lynn Railway, with names like the "Union", the "Oriole", the "Swampscott", the "Ashburnham", and the "Newton". In those days, ferries carried over 10,000 people per day to their various destinations in the region.

Chapter 11

1. The various public agencies attempting to promote water transportation services should work in close coordination to provide adequate subsidies for water transportation services and to exact waterfront improvements from private developers who should provide landings, waiting areas, lighting, landscaping, access and support facilities for water transportation s

Chapter 12

1. Finalize a comprehensive water transportation management plan for Boston Harbor. Such a plan should include sites, routes, intermodal links, detailed costs and implementation schedules for developing a water transportation system.

2. Update Harbor regulations for the City of Boston to address potential safety problems in the Inner Harbor, considering the growth potential of water transportation services.

3. Finalize design standards and specifications for landside and waterside facilities need to service water transportation.

4. Encourage the BRA to assume a leadership role, coordinating with other State and City agencies and the Water Transportation Task Force, to finalize policies and guidelines for governing water transportation activities in Boston Harbor, using this document as a basis for discussion.

5. The existing Water Transportation Task Force should retain its broad representation from both public and private entities and serve as a review board for specific proposals, until a single governing body for water transportation can be established; also utilize the Harborpark Advisory Committee as a review and advisory board for specific proposals.

6. Begin serious discussions with the various agencies having the potential to serve as a governing body for water transportation services, in particular the MBTA, and finalize a recommendation.

7. Apply for Central Artery Mitigation monies as a means of subsidizing water shuttle services in the Inner Harbor.

8. Establish a permitting system for water transportation services.

9. Undertake the following work in-house or utilizing private consultants:

   - A study to determine the appropriate vessels for the Inner Harbor water transportation system;

   - Analysis of ridership to identify service demand and routes for the system;

Chapter 8

The design and construction of landside and waterside facilities and boats should conform to specific guidelines, as summarized in Chapter 8 pertaining to the following:

Boat access to docking
Terminals
Shelter
Signage
Public space
Harborpark connections
Marina Facilities
Vessel size, capacity, speed, loading, flexibility, durability and aesthetics
Handicapped access

Chapter 9

1. Public agencies and developers should provide clear commitments to boat operators who require long-term leases and secure docking arrangements to enable them to obtain bank financing.

2. Update and expand Harbor regulations pertaining to traffic, safety and docking and develop a comprehensive management plan in conjunction with adjacent cities and towns.

Chapter 10

1. Establish a MBTA/privatized arrangement as the governing and operations body for water transportation in Boston harbor. The MBTA should take on the central coordinating, funding, planning and governing role for water transportation, while leaving the actual operations to the private sector, which would bid for routes and services.

2. Increase awareness of water transportation and promote it as a legitimate form of public transportation, which can provide an efficient and comfortable alternative to ground transportation.

3. Encourage representation from the many parties involved in water transportation.

4. Finalize the technical aspects of the system such as design of vessels, facilities, routes and scheduling.

5. Provide for licensing of boat operators under safety regulations promulgated by the Coast Guard and others.

6. Establish policies and programs for the allocation of funds, subsidy of operators, and investment in facilities and equipment.

7. Provide multiple water transit routes to ensure an efficient, comprehensive service.

2. In the next 2-4 years, provide a two Inner Harbor shuttle service, operating during morning rush hours as follows (and during evening rush hours in reverse direction):

   Route 1: Long Wharf to navy yard to Clippership Wharf to Long Wharf.

   Route 2: Long Wharf to Logan Airport to Fort Point Channel to Long Wharf.

3. In the third development phase of the express shuttle service, provide an Inner Harbor loop, connecting the sites listed below. The sites are near major population centers and/or transit connections, so as to capture a significant ridership population and are also far enough apart from each other, in order to minimize time lost in boat acceleration/deacceleration and loading/unloading.

   Long Wharf
   South Station/Fort Point Channel Area
   Logan Airport
   Clippership Wharf
   Pier IV, Charlestown Navy yard
   North Station

4. During non-peak travel times, utilize the express shuttle boats for excursion services in Boston Harbor, as follows:

   Cultural Loop, connection educational and cultural attractions for children and tourists, including U.S.S. Constitution/Navy Yard, Lewis Wharf Museum Ship (proposed) Old North Church, Aquarium, Fan Pier Cultural Museum (proposed), Museum Wharf, Computer Museum, Tea Party Ship and JFK Library.

   Recreation Loop, connection Dorchester Bay recreational resources, including Kelly's Landing Castle Island Park, JFK Library/U. Mass Campus and Harbor Islands, and allowing passengers to carry bicycles.

   Non-Express Inner Harbor Loop, connecting not only the six recommended express shuttle sites (i.e., Long Wharf, Fort Point Channel, Logan Airport, Clippership Wharf, Pier IV in Charlestown and North Station), but also the remaining Inner Harbor sites suitable for shuttle service docking (i.e., Lincoln Wharf, Lewis Wharf, Rowes Wharf, Fan Pier, Commonwealth Pier, Schrafft Center and Charlestown Navy Yard Pier II.

5. Encourage direct linkages between the regional commuter service and the Inner Harbor shuttle, to permit an all-water transportation mode from remote park-and-ride sites to Inner Harbor destinations.

6. Coordinate the proposed non-express shuttle service with State and private excursion services, to avoid duplicating routes and services and to avoid undermining the economical feasibility of existing private sector operations.

13. Develop a rational, coordinated licensing and permit procedure for water transportation services.

14. Provide a well-managed, equitably priced water transportation system.

15. Provide a mechanism for fiscal stability for the development and maintenance of water transportation.

Chapter 5

1. Priority should be given to finalizing the selection of those sites which appear most suitable for the four water transportation services studied in the report, as listed below. Each site was evaluated against preselected criteria, and sites with the highest scores are considered prime candidates for future analysis.

	Express Shuttle	Regional Commuter	Excursion	On-Demand Taxi
Rowes Wharf	3.5	1.5	2.0	2.5
Long Wharf	5.0	2.0	3.0	3.0
Lewis Wharf	2.5	1.0	2.0	2.5
Lincoln Wharf	2.5	1.0	1.5	2.0
North Station	5.0	1.5	3.0	1.5
Navy Yard/Pier 4	4.0	0.0	1.5	2.5
Navy Yard/Pier 11	3.5	0.0	1.5	2.5
Schrafft Center	2.0	0.5	0.5	0.5
Clippership Wharf	4.5	0.5	0.5	1.0
Logan Airport	3.0	1.0	2.0	2.0
Fan Pier/Pier 4	4.5	1.0	2.0	2.5
Kennedy Library	1.0	0.0	1.0	1.0
Commonwealth Pier	1.0	0.0	0.0	0.0
South Station/Fort Point Channel	5.5	2.0	3.5	1.5

Chapter 6

1. The Inner Harbor express shuttle and the regional commuter service need to satisfy similar operational criteria, as identified in Chapter 6.

2. The excursion service, the Inner Harbor non-express shuttle and the on-demand taxi service need to satisfy distinct operational criteria, as identified in Chapter 6.

Chapter 7

1. Encourage the centralization at Long Wharf of the Inner Harbor shuttle service currently operating to Pier 4 in Charlestown and to Logan Airport, in order to permit a direct passenger interchange. Also use Long Wharf as a destination for South Shore commuters.

SUMMARY OF RECOMMENDATIONS

Recommendations contained in this document are summarized below in the order that they appear by Chapter. The background and justification for the recommendations can be found in the respective Chapters.

Chapter 4

1. Facilitate the development of a well-coordinated water transportation system in the Inner Harbor to provide year-round commuter and water shuttle services, water taxi and excursion services.

2. Improve Intra-Harbor movement and reduce congestion Downtown, particularly in areas potentially impacted by the Central Artery and the Third Harbor tunnel construction.

3. Develop intermodal links between water and landside transportation systems.

4. Provide a cost-effective water transportation system that safeguards the public interest and offers private sector opportunities.

5. Ensure that all terminal facilities and vessels are accessible to elderly and handicapped persons.

6. Ensure that landside facilities are suitable for year-round use.

7. Identify appropriate sites for waterborne transit services and do so in a manner consistent with the physical constraints of the harbor and the land use characteristics of the _____.

8. Support and expanded private sector role in the provision of water transportation services and facilities.

9. Ensure that the State, through its Chapter 91 licensing process, the City and the Boston Redevelopment Authority provide for, and take advantage of, water transportation in newly proposed projects.

10. Ensure a consistent quality of safety, convenience and accessibility on the Boston waterfront by establishing uniform design guidelines that will set building standards for docks, ramps, gangways and landside facilities.

11. Promote the transport of bicycles on watercraft to complete landside biking activities.

12. Provide good linkage between water transportation sites and Harborwalk.

CHAPTER 3

The Context

FOOTNOTE

* Regional Commuter: Long distance, express services to North and South Shore communities, with frequent service during peak commuter hours (6:00 a.m. to 9:00 a.m. and 4:30 p.m. to 7:30 p.m.).

Inner Harbor Shuttle: Services providing transportation to and from the waterfront neighborhoods of Boston: East Boston, Charlestown, North End/Downtown, South Boston, Dorchester. Express service would operate at other times throughout the day.

Excursion: Services to the Harbor Islands; cultural water shuttle loop to recreational/cultural facilities on waterfront (serviced by Inner Harbor shuttles at off-peak hours); Inner Harbor cruises and charters; long cruises to Gloucester/Provincetown; whale watches.

Water Taxi: On-demand service to and from a variety of landings in the Inner Harbor at all times of the day.

policies, recommendations, analyses, and the data provided in this report are intended to provide the much needed guidance to the private boat operators and the public sector in coordinating their efforts and thereby creating a concerted force in establishing a viable water transportation system.

Chapter 8 focuses on the specific design issues which need to be addressed with respect to landside facilities and terminals, vessels, and handicapped access. Recommendations are made with respect to the guidelines and standards which should be established.

Management issues, covered in Chapter 9, include overseeing of operations on wharves and landside services which need to be provided, leasing/permitting issues, and Harbor traffic.

Chapter 10 discusses jurisdictional responsibilities, first providing an overview of the roles and responsibilities of the various entities within the existing system, second discussing four alternative governing mechanisms for a water transportation network, and lastly recommending one of the alternatives as a governing mechanism.

Chapter 11 discusses funding issues in water transportation, including current subsidy conditions and providers, landside investment, current efforts to secure subsidy, and future policy goals and recommendations for funding water transportation.

Chapter 12 outliens a series of recommendations with respect to the "next steps" in the development of a water transportation system.

Ten appendices are provided with the report including a glossary of waterfront terms, cost data, technical information on physiography, illustrations of terminal and vessel design, a handicapped access code, New York City's Ferry Service Permit Application, profiles of water transportation systems in other North American cities, a resource directory, a bibliography of water transportation studies and newspaper articles.

Water Transportation in Boston Harbor: Issues and Opportunities is intended to be information planning tool for all entities involved in the planning and development of the proposed water transportation network. The

comprehensive network. This policy framework provides the necessary guidance for a unified approach by all of the entities who will be involved in planning and developing the system.

Chapter 5 presents a discussion of land and waterside criteria for the four types of services proposed: Inner Harbor shuttle, regional commuter, excursion, and water-taxi, as well as a series of site analyses for various existing and proposed locations for landings and terminal facilities in the Inner Boston Harbor. Each site is pictured and located on a map and significant information is provided on the water transportation related characteristics of the site. The site is then evaluated for its recommended type of service. The chapter concludes with a matrix that rates various sites in terms of their suitability for the four types of services taking into account a series of criteria. A summary of the matrix outlines the various sites most appropriate for each type of service.

Drawing from the specific site-related information providing in Chapter 5, the following section presents an analysis of the system as a whole, first giving an overview of existing service,s next outlining the service criteria for system operation and third, providing a profile of a potential network. Hence, it presents a complete overview of a comprehensive system which could be established.

Based on the site and systems profiles presented in the two previous chapters, Chapter 7 provides recommendations on specific water transportation sites and routes for an Inner Harbor shuttle service. After outlining the assumptions in system design and discussing shuttle service demand, this chapter presents the sites and routes which should be considered within two time periods: immediate and short-term, covering from the present to 1990.

o water-taxis providing on-demand services to several destinations.

It connects public transportation nodes and transit centers and cultural attractions along Boston's waterfront.

It also complements the city's burgeoning waterfront development by mitigating peak period traffic, by providing a special transportation service for tourists, shoppers, and visitors, and by providing one of the few opportunities to view the city from the waterside.

This report covers many issues related to the subject of water transportation in Boston Harbor including site and system related characteristics and potentials; policies, goals and objectives; design elements; managerial, financial, and jurisdictional considerations; and a series of recommendations for undertaking the planning and development work needed to implement a water transportation system.

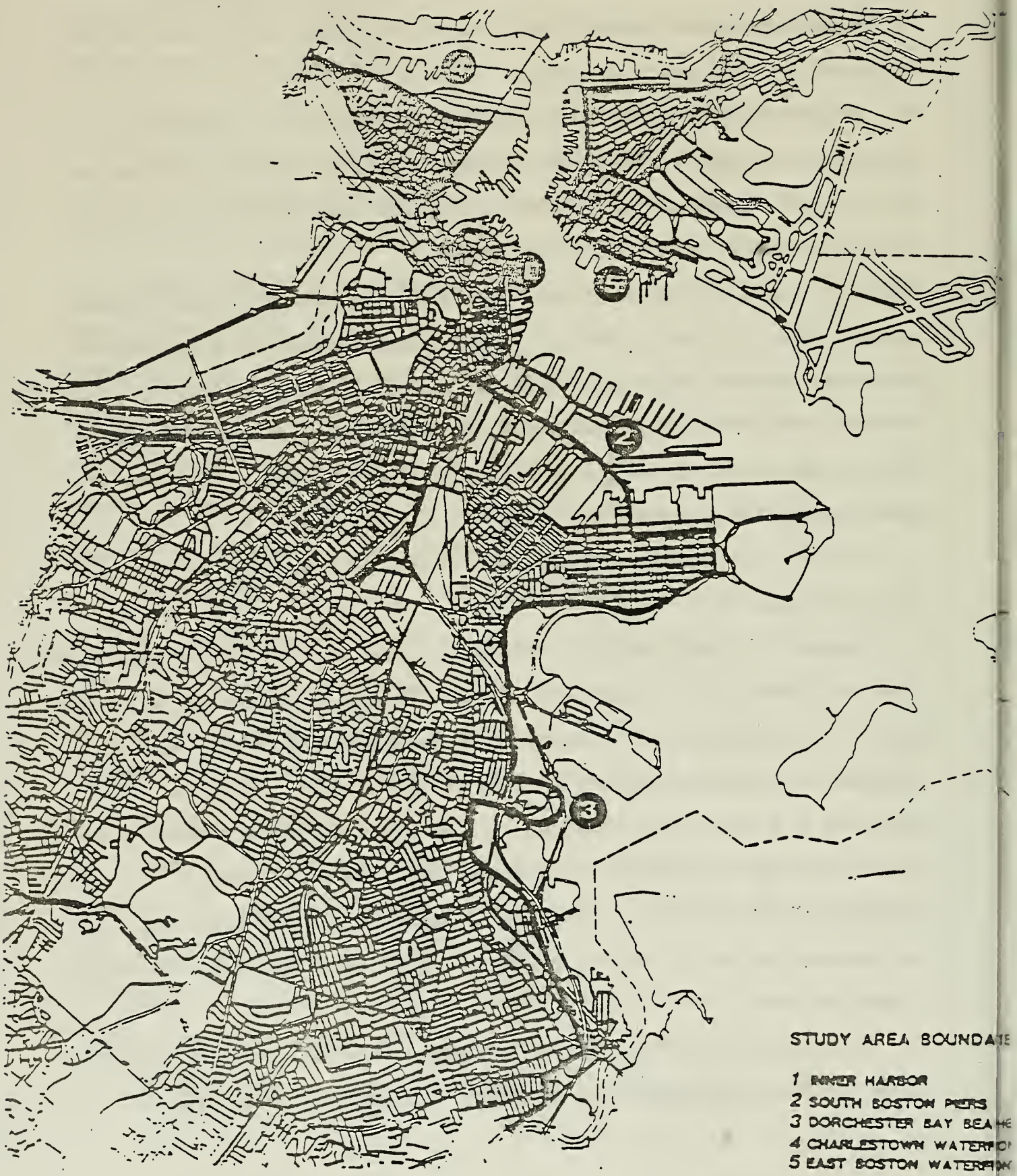
Following this introductory chapter, Chapter 2 provides a summary of recommendations.

Chapter 3 - The Context - describes in detail the historic background of water transportation in Boston Harbor and its recent re-emergence as a viable mode of transportation. An overview of ongoing planning and development activities is provided along with a series of issues which need to be addressed in a more comprehensive approach. The particular physical circumstances existing in Boston Harbor are also discussed in this section in order to highlight the physical considerations which must be taken into account in the planning and development of a comprehensive water transportation system for Boston.

The next section of the report, Chapter 4, presents a policy framework which outlines several goals and objectives in establishing the proposed

FIGURE 1

HARBORPARK BOUNDARIES



This population increase is placing tremendous pressures on the existing transportation network and aggravating the congestion of the city's roadways, bridges, tunnels, and parking facilities. These factors, combined with future construction of the Charlestown/North Area Artery project, Third Harbor tunnel, and Central Artery depression will cause even more vehicular traffic congestion and problems, unless adequate steps are taken to expand the existing transportation network in feasible and attractive ways.

In addition to offering a valuable extension to Boston's transportation network, water transportation offers a means of relieving demand on heavily used transit and highway systems as well as an energy-efficient means of travel, with environmental advantages of reduced air and noise pollution.

For the reasons outlined above, it is imperative that water transportation is a priority consideration in Boston Harbor's planning and development agenda.

This report is a framework for planning a water transportation system as a viable component of Boston's transportation network.

It is also a comprehensive approach to the establishment of such a system in Boston Harbor - a system serving the existing and growing transit needs of Boston's residents and visitors. Such a comprehensive approach recognizes the transportation needs of both the public and private interests of the harbor and complements current and future waterfront development goals for the city. It provides for all types of services:*

- o regional commuter boats transporting employees from North and South Shores into downtown Boston;
- o water shuttles providing express service from one neighborhood to another and to the airport (high density/high intensity areas in the Inner Harbor);
- o excursion boats providing sightseeing opportunities and easy access to the various cultural and recreational activities located in and around Boston Harbor; and

INTRODUCTION

Water transportation has played a significant role in the rich history of Boston Harbor. As far back as 1630, passenger and freight ferries plied the waters between Charlestown and downtown Boston. The ferry systems flourished and peaked in the 1880s, when boat services met the recreational, commuting, and commercial needs of the area with routes from downtown Boston to East Boston, Hull, Nantasket, Hingham, North Weymouth, Nahant, Plymouth, Gloucester, Provincetown, and the Harbor Islands. Many still remember the day when these old steamers carried over 10,000 people a day to their various destinations. But as the automobile rose in popularity and roads and bridges took over the job of transporting people, demand for waterborne transportation quickly diminished. On January 1, 1953, soon after the completion of the Mystic River Bridge, Mayor John B. Hynes signed legislation legally discontinuing all ferry service in Boston.

Today water transportation is re-emerging as an integral component of the overall transportation network in Boston, as the Harbor is once again becoming the focus for commerce, recreation and housing. The resurgent economy is producing new jobs and housing opportunities for the region, especially in downtown Boston, where presently over 283,000 people work. These new employment and housing opportunities are resulting in significant population increases in the harbor neighborhoods. By 1991 over 5,000 new housing units and 10,000 new residents will be drawn to the waterfront neighborhoods of East Boston, Charlestown, North End/Downtown, South Boston, and Dorchester. This represents a 19% increase over today's population of 193,370 people living adjacent to the water within the Harborpark boundaries. (See Figure 1.)

CHAPTER 1

Introduction

TABLE OF CONTENTS

Page

1. Introduction
2. Summary of Recommendations
3. The Context
4. The Policy Framework: Goals and Objectives
5. Site Analyses: Existing Conditions and Opportunities
6. System Analysis: Existing Conditions and Opportunities
7. Recommended Sites and Routes for Inner Harbor Shuttle Service
8. Design Elements/Guidelines
9. Management Issues
10. Jurisdictional Responsibilities
11. Funding Water Transportation
12. Recommended Next Steps

Appendices:

1. Glossary of Waterfront Terms
2. Cost Data
3. Technical Report on Physiography
4. Illustrations of Terminal and Vessel Design
5. Handicapped Access Code
6. New York City's Ferry Service Permit Application
7. North American Cities System Profile
8. Resource Directory
9. Bibliography of Water Transportation Studies
10. Newspaper Articles

I can easily imagine a time when Boston Harbor once again becomes a vital part of this city's transportation network. Today, water transit is quickly re-emerging as a viable component of our transportation system. In this not too distant future water transit will provide the people of Boston with an efficient and convenient way to commute to work, visit recreational and historic sites, and come together to enjoy this beautiful harbor.

Our vision of a comprehensive water transit system could soon become a reality. We are requiring private investors building on the Harbor to include facilities for water transit as part of their projects. To make this ambitious water transportation system a success there must be strong cooperation among city and state agencies, private developers, and boat operators. With hard work and planning, this vision of a comprehensive water transportation system will soon be realized, and a city surrounded by water will truly fulfill the potential of its most significant natural resource, the Harbor.

Raymond L. Flynn, Mayor

WATER TRANSPORTATION IN BOSTON HARBOR:
ISSUES AND OPPORTUNITIES

April, 1987

WTR/A/041587/1

BOSTON PUBLIC LIBRARY
THE TRVSTEES OF THE PVBLIC LIBRARY OF THE CITY OF BOSTON 1852 : 1878

PUBLIC LIBRARY BOSTON
THE TRVSTEES OF THE PVBLIC LIBRARY OF THE CITY OF BOSTON 1852 · 1878